THE BABY'S FIRST TWO YEARS

By

Richard M. Smith, M.D.

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BY

RICHARD M. SMITH, M.D.

Assistant Professor of Child Hygiene, Harvard University School of Public Health; Associate Physician, Children's Hospital; Visiting Physician, Infants' Hospital, Boston

WITH ILLUSTRATIONS

Revised Edition

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TO

JOHN LOVETT MORSE, A.M., M.D.

Professor of Pediatrics, Harvard Medical School

this book is inscribed
as a tribute to his devoted service
to students, to parents, and to children
and in grateful appreciation
of many kindnesses

PREFACE TO SECOND EDITION

THIS second edition is offered to the new mothers in the hope that it may be of service to them in answering some of the many perplexing questions which are sure to arise during the baby's first two years.

Part I has been carefully revised and certain portions, particularly Chapters V and VI, have been rewritten to bring them into conformity with present knowledge. Part II, written by Mrs. Greene, has not been changed.

RICHARD M. SMITH, M.D.

February 12, 1924.

PREFACE TO FIRST EDITION

THIS book is presented with no claim to any original material. It contains information which I have tried to state in a form easily available to those seeking advice on the care of a well baby. The book is divided into three parts. The first part, chapters I to X, is made up of definite rules for the care and feeding of infants up to two years of age; the second part, chapters XI to XIII, consists of general suggestions which may be modified to suit the individual baby; the third part contains recipes and charts.

Part II was written by Rosalind Huidekoper Greene. Mrs. Greene made many suggestions which have been incorporated in Parts I and III and also assisted greatly in editing the book. Mr. Greene compiled the index. I wish to express to both of them my sincere thanks.

RICHARD M. SMITH, M.D.

BOSTON, *May 1, 1915.*

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THE BABY'S FIRST TWO YEARS

PART I

RULES FOR THE CARE AND FEEDING OF INFANTS

THE BABY'S FIRST TWO YEARS

CHAPTER I

PREPARATIONS FOR THE BABY

THE NURSERY

THE nursery should be sunny, spacious, and quiet. It is particularly important for the room to have sun. There should be as many windows as possible, even if it is necessary to have double glass in winter. A summer nursery should have a through draft. In winter the bed should be so placed that the wind will not blow directly on the baby. If one pane of double window is removed and muslin substituted, fresh air is admitted but there is no direct draft. Direct drafts may be prevented also by using screens or ventilators, or both.

The room should have an open fire. If the room is heated by a radiator or register, the open fire should still be used, but there should be some method of moistening the atmosphere. Pans of water sunk in the register or placed on the radiator are helpful. Oil stoves should be avoided, as they consume too much oxygen and are dangerous.

The room should be lighted by electric lights, if pos-

sible. If gas is used, great care should be taken not to leave it burning long in the room, as it exhausts the oxygen, or it may be blown out by a wind. If kerosene lamps are used, it must be remembered that they are easily upset. Wall-brackets are a safeguard against accidents.

The walls of the room should have some smooth covering which can be washed. Walls painted some soft color and not glaring are the most satisfactory. The windows should have dark shades.

The floor should be smooth and easily washed. A hardwood floor is most satisfactory, or a floor covered with linoleum. Rugs should be of washable material. There should be no woolen draperies, no woolen or cotton matting, no upholstered furniture.

The room should be near a bathroom or connected with it. If the bathroom cannot conveniently be used for cooking, there should be next to the nursery a closet with outdoor light, running water, and with a place for a gas or alcohol stove. Neither cooking nor the heating of food should be done in the nursery itself. If a special room cannot be secured for this purpose, a table should be arranged in the hall or in an adjoining room.

In summer the nursery and the room used for cooking should be carefully screened against flies.

The temperature of the nursery in winter should be

about 68° during the day. The temperature near the floor is much less than that higher up. This is important to remember, as the temperature should be taken at the same level as the place where the baby is. At night the temperature during the first months should be kept at from 60° to 65°, but as the baby grows older, it may go as low as 55°, or after the first year even as low as the outside air, provided it does not go below freezing. The temperature in summer should be kept as low as possible. A sleeping-porch or balcony is very useful, but, except in the city, is not necessary, as the baby can be put out of doors.

Furniture. The furniture for a well-equipped nursery should include the following: —

An iron or brass crib with sides at least fourteen inches above the mattress. Bassinettes are useful only for the first few weeks. A large sleeping-basket will serve for many months.

A bureau for keeping the baby's clothes.

Two low chairs without arms; one of them may have rockers.

A low table to hold the baby's bath things. On this table there should be a soapdish; a tumbler for boric acid solution, covered; a dish for holding absorbent cotton, covered; a washbowl. The washbowl may be divided into two parts and may fit into a specially

provided stand, but this is not necessary. A small enamel bowl will serve every purpose.

A bathtub; a rubber tub and an enamel pail are most satisfactory, but a tin or enamel-ware one will serve the purpose. Rubber tubs are made with a support to attach to the side of a big tub. These are convenient in some instances.

A screen — preferably a wooden frame with cotton filling which can be washed.

Small infant chamber with rubber air-cushion pad.

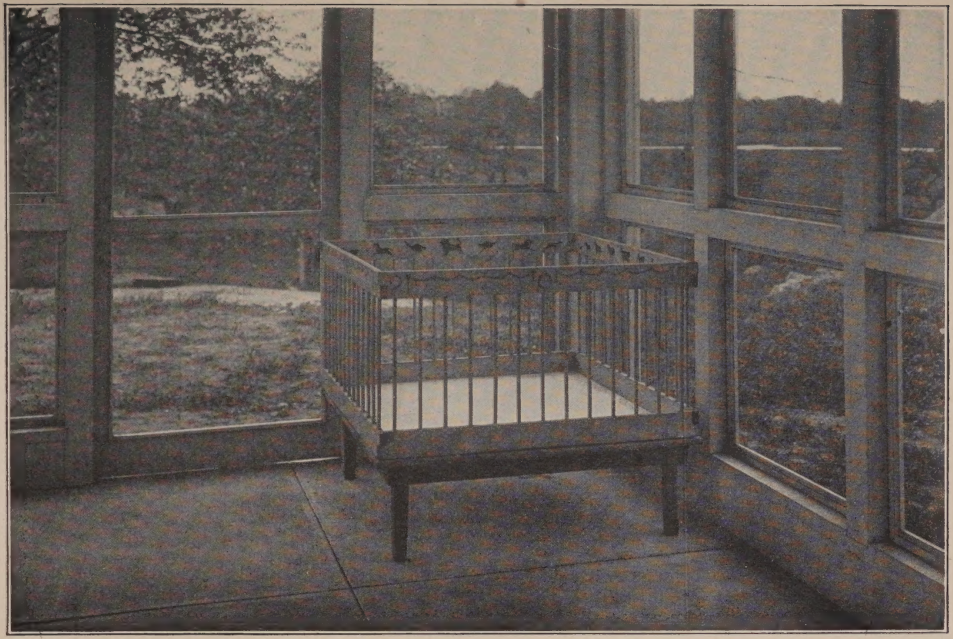
Small toilet chair.

A baby basket with compartments to contain the necessary toilet articles.

Scales. Do not buy spring scales; they are often inaccurate and are not satisfactory after the baby grows older. Get ordinary, standard balance scales, which weigh at least in half-ounces, and, better, in quarter-ounces. If these can be put on a separate small table and left undisturbed, it will be most convenient and the scales will keep in order.

A baby pen. This should have a solid wooden platform about 16 inches above the floor on castors with a washable blanket on its floor. A pen three feet square is satisfactory. In a large nursery even a larger pen can be used.

Two enamel or galvanized pails with covers for soiled diapers.



A BABY PEN

A wall thermometer.

A screen for the fireplace.

Toilet articles. The following articles are needed for the baby's toilet: —

Three dozen large, strong, white safety pins.

Two dozen very small safety pins.

One box of sterile absorbent cotton.

Six tubes of lanoline.

One tube of white vaseline.

Three cakes of pure white castile soap.

Six boxes of unscented talcum powder.

One bath thermometer.

One pound of boric acid crystals, to be bought in sealed packages.

Eight ounces of pure olive oil or mineral oil.

Four wash-cloths. If these are made two each of different colors, the face and the body cloths may easily be kept separate. A good quality of all-wool flannel is softest for the baby's face.

Two bath blankets, knitted-wool or cotton.

Six soft towels.

A soft hairbrush.

Clothes. Each new baby should find ready for him the following articles: —

One soft receiving blanket.

Six flannel wraps one yard square.

Four knitted blankets.

Two blankets for the crib.

Six sheets for the crib.

Two yards of the best grade of solid white rubber sheeting for the crib.

Four dozen diapers. The diapers should be made of cotton or stockinet, not linen.

Four flannel binders.

Four high-neck and long-sleeved woolen, or silk-and-wool, or cotton-and-wool knitted shirts.

Four knitted abdominal bands with shoulder straps. Neither shirts nor bands should be knitted with tough inner seams.

Four nightgowns; flannel, or canton flannel, or Arnold stockinet.

White slips.

Three flannel gertrudes.

Six horse-blanket pins for pinning the baby in his crib.

One two-quart hot-water bottle with woolen cover.

The doctor. Every mother needs advice about the care and feeding of her baby. The doctor is the person to give her this advice. She should decide what doctor she is going to have care for her baby and ask him to see the baby soon after he is born and while he is perfectly well. She should take her baby for examination at frequent intervals during his first two years. So long as the baby

is nursing these visits may be two to four months apart, but when the baby is weaned, they should be as often as once a month for the first year, and once in three months the second year. It is often possible to prevent serious illness by frequent consultation about the apparently trivial affairs of the baby's life.

Nursemaid. A mother can take entire care of her baby if she is willing to give up other things, but the baby should not be made a secondary consideration. If a nursemaid is to be employed, before she is engaged she should be sent to a doctor for a thorough physical examination with especial reference to the presence of tuberculosis, syphilis, gonorrhœa, deficient hearing, and decayed teeth. If the nurse understands that this is a routine procedure for all nursemaids she will not resent the examination unless there is something wrong.

If the nurse has had good training she will know how to do the ordinary things for the baby, but the mother should watch her do them for the first time to be sure that she does them as the mother wants them done. Nurses with long experience in the care of infants have ideas about doing things which may be good; but the mother should retain her privilege of bringing up her own baby. The mother should insist on having everything done in accordance with the doctor's directions, and the nurse must not be allowed to change the food or other routine except as the doctor prescribes.

CHAPTER II

NORMAL DEVELOPMENT

Babies in general do certain things at certain ages but individuals differ greatly in their development. A mother should not be alarmed because her baby varies somewhat from the average. A child should not be urged to do tricks or be brought forward to show off his accomplishments. Let him do the new things when he is ready to do them; this is soon enough.

Weight. Most babies at birth weigh six and one half to seven and one half pounds. Boys are usually slightly heavier than girls. Babies lose considerable weight during the first few days. This should cause no alarm. After the first week they gain about five to six ounces a week during the first year and somewhat less later. After the first nine or ten months they gain not so regularly as up to that time. At five to six months they usually have doubled the birth weight; at twelve months, trebled it. At two years they usually weigh twenty-five or twenty-six pounds.

Height. The average length of a newborn baby is twenty to twenty-one inches. In six months the aver-

age gain is five inches; in twelve months, eight inches; and in two years, twelve inches.

Head. The baby's head at birth shows two soft spots or fontanelles. The soft spot at the back of the head usually closes at about six weeks and the large spot in front at about eighteen months, often earlier.

Hair. The first hair which the baby has at birth usually comes out during the first weeks or months of his life and is replaced by new hair.

Mouth. Very little saliva is secreted at first, but the amount increases materially after the third or fourth month. The increased saliva runs out of the mouth because the baby has not learned to swallow it. This drooling has nothing to do with teething.

Eyes. The baby does not see very much at birth, although he seems to be able to distinguish between light and darkness. Probably he recognizes objects at the age of six or eight weeks and can definitely focus his attention at the age of three months. At this time he recognizes people. During the first few weeks of life a baby often appears cross-eyed at times, because of his inability to control the muscles. This disappears as he grows older. Nothing need be done for it. A baby does

not shed tears usually until he is about three months old. Nearly all babies have dark blue eyes at birth. The color changes during the first few weeks to that which is to be permanent.

Hearing. The newborn baby probably does not hear at all. In a very short time he is able to recognize noises, but does not localize them until he is about two months of age.

Teething. Babies differ greatly as to the time at which the first tooth appears. Frequently there is a family tendency for late teething. In general, babies get teeth in about the following order: —

At 5– 8 months, the two lower middle incisors.

At 8–10 months, the four upper incisors.

At 10–11 months, the two lower later incisors.

At 12–15 months, the four anterior molars.

At 18–20 months, the four canines — the "eye" and "stomach" teeth.

At 24–30 months, the four posterior molars.

Skin. The baby's skin at birth is bright pink which fades during the first week to a normal ruddy color. Frequently during the first few days of life the skin becomes slightly yellow; i.e., there is a little jaundice. This does not require treatment. Often the skin shows

a fine red rash from overheating or from the irritation of the clothes. Sometimes the first skin peels off in small flecks leaving a soft normal skin beneath. The fine soft hair present on the body at birth soon disappears. A newborn infant does not perspire — this function appears usually within a few weeks.

Breasts. A baby's breasts often begin to swell soon after birth, and are slightly reddened. They fill with milk, but if they are left alone the swelling gradually goes down and they return to normal size. If they are massaged or treated in any way they often become infected and require operation.

Bones. The bones at birth contain only a little calcium and therefore are very pliable. They become harder as the baby grows older. Nearly all young babies appear to be bowlegged, but the legs straighten as the baby grows older.

Actions. At four to five weeks of age a baby smiles.

At three to four months of age he usually grasps objects intelligently.

At about four months of age he begins to hold up his head.

At six to eight months of age he usually creeps.

At seven to eight months of age he usually sits up alone.

At fourteen months of age he begins to walk.

At eleven to thirteen months of age he says words, but does not make formed sentences until two years of age.

CHAPTER III

THE CARE OF THE BABY'S BODY

Bath. A normal, healthy baby should be bathed daily. Until the cord is off and the navel is dry, he should not be given a tub bath. The bath is usually most conveniently given at 8.30 A.M. if the baby is on three hour feedings; at 9.30 A.M. if he is on four hour feedings. The face and hands should be sponged also at 5.30 P.M. In warm weather a complete sponge bath should be given in the afternoon and on very hot days in the middle of the day also. The temperature of the room in which the bath is given should never be below 70° Fahrenheit, but should not be much over this. If possible, the bath should be given before an open fire, but care should be taken that the rest of the room is not cold. The temperature of the water should be between 95° and 98° until the baby is six months old; after that it can be as low as 90°. The baby's face should be washed first, then the body should be soaped thoroughly and dipped into the warm water. Powdered castile soap is useful for bathing. The baby should not stay in the water more than two or three minutes. He should be quickly dried by sopping, not by hard wiping. If the skin is sensitive and becomes easily irritated, a bran bath will be found bene-

ficial. This is prepared by putting a handful of bran in a cheesecloth bag and soaking this in the water until the water is milky.

Eyes. The baby's eyes should be protected from the light. They should be bathed each morning, at first with a two per cent boric acid solution; after two months with boiled water. A fresh piece of absorbent cotton should be used for each eye. Occasionally one eye has an excessive watery secretion which runs down on the cheek. This is due to a plugging of the canal which carries off the secretion. The canal in the majority of instances opens itself after a few weeks and no treatment is needed. If the eyes have a mattery secretion or if the eyelids are red or swollen, your physician should be notified at once, and the baby put under the care of an oculist. If proper treatment is not begun immediately the baby may become blind.

Mouth. The baby's mouth should be left alone. If there is any milk in the mouth after nursing, a teaspoonful of sterile water may be given, which will wash it down. The teeth after they come should be cleaned daily with a soft brush.

Nose. The baby's nose on the inside should be left alone, except for the cleaning which can be done easily

by a soft pledget of cotton. A stick should not be used to clean out the nostrils. If there is a slight secretion in the nose, one to two drops of liquid albolene put into each nostril with a medicine dropper will clear it out. Albolene may be used night and morning for this purpose.

Ears. The baby's ears should be kept clean by daily washing of the outside with soap and water. No attempt should be made to clean the canal of the ear further than can be done with a piece of cotton put over the little finger. If a sharp instrument is put into the ear, the ear drum situated at the end of this canal may be injured and the wax may be pushed in and entirely block the canal.

When the baby is lying on his side, care should be taken that the ear is not bent forward under his head.

Scalp. The baby's scalp should be washed at the time of the bath. For the first few months soap should not be applied more than two or three times a week. If there are scales present, — the so-called "cradle-cap," — pure olive oil or mineral oil should be applied at night and the scales removed in the morning. Care should be taken not to use force, as the condition is made worse by irritation.

Head. The baby's head will become flattened on the

under side if he is allowed to lie constantly in one position. He should be turned from one side to the other and on to his back.

Frequently he will rub off the hair from the back of his head. This is because he is kept too warm or because the sheet is very rough.

Skin. The baby's skin should be soaped every day and then rinsed off with plain water. After the drying of the skin, talcum powder should be applied in all the folds. Care should be taken that an excess of powder is not used, as hard cakes of powder cause irritation. The skin of some babies will be kept in better condition if olive oil or lanoline is used in place of talcum powder.

Navel. The navel should be covered with a sterile pad and should not be wet until the cord comes off. After the cord is off and the navel dry, no treatment is required. If the navel is bulging, a pad of gauze may be placed over it, and the flannel band which the baby will be wearing applied tightly. If this does not keep the navel from bulging, a strip of adhesive plaster may be applied. The adhesive plaster should be about two inches wide and long enough to reach at least one inch on each side of the navel. It should be applied snugly and allowed to stay on until it becomes loose which is about a week or ten days. A fresh piece should be put

on until there is no bulging. Adhesive plaster should never be used if there is any moisture of the navel. Ether may be used to remove the plaster. Ether is useful also to cleanse the skin where the plaster has been applied.

Nails. The baby's nails should be kept short enough so that he will not scratch himself. There is no objection to cutting the nails.

Buttocks. The buttocks should be cleaned after each movement by using either water or oil. Do not wipe the movements over the genitals; in female babies, it may cause trouble. If the buttocks are irritated by the movements, they should be washed with lime water and covered with lanoline. If this does not cure the condition a mixture of equal parts of zinc oxide ointment and castor oil should be used. The irritation may be caused by soap left in the diaper after washing. Be sure the diapers are thoroughly rinsed. Sometimes an ammoniacal diaper causes irritation. Boiling the diapers every day will usually prevent the formation of ammonia. The irritation often comes from a disturbance of digestion. Tell your doctor if it occurs in order that he may see that the food is correct.

Genitals. The genitals in girl babies do not require

any special care except cleanliness. They should be washed twice a day with plain water. Care should be taken that all fecal matter is removed after each movement. In applying powder to the legs the labia should be held together to keep the powder from caking between them and causing irritation.

The foreskin in boy babies should be retracted once or twice a week and cleaned beneath. Get instructions from the doctor how to do this and how to recognize the appearance of adhesions. If there are any adhesions they should be broken up by the physician. The foreskin should then be retracted daily and vaseline applied until there is no tendency for adhesions to re-form.

CHAPTER IV

BREAST-FEEDING

EVERY mother should nurse her own baby. By refusing to give her baby the benefit of breast milk, a mother takes a risk for him which she has no right to assume. Breast milk is the best food for a baby. It is fresh, clean, and always at hand. It is the least expensive food which can be given. It prevents certain diseases and cures these diseases when they occur in babies who have not had breast milk. It increases the resistance of a well baby to disease, and it helps a sick baby to recover from all kinds of illness.

The nursing mother. The mother who is nursing her baby should remember that, for the time being, nursing is her most important business in life and that all other things must be secondary to it. Remembering this she should, however, lead a normal life as nearly as possible. Her habits of exercise, her diet, and in fact everything about herself should be conducive to her best health. If she is used to being out of doors a great deal, she certainly will not feel well if she stays in the house all the time. Her diet should be such as she is accustomed to have. In addition to the usual three

meals a day, she should have three lunches, one in the middle of the morning, one in the afternoon, and one at bedtime. The lunches should consist mostly of milk or gruel. She should take a large quantity of fluid in the day, but she should not force herself to the point of upsetting her own digestion. One quart of water and one quart of extra nourishing liquid daily is sufficient. She need not at the beginning avoid any article of diet. If she finds that a particular thing always disagrees with her baby, she had better not take it. The same thing may be quite permissible for another mother. Since certain drugs are excreted in the breast milk, she should not take any medicine while she is nursing except on the advice of a physician. She must remember, above all things, that her attitude of mind is intimately connected with the quality of her milk. She must keep a calm and even mind, for nothing upsets a baby more quickly than a nervous, irritable, or angry mother. She must realize that when she is disturbed the baby suffers much more than she does. The family and friends should realize this also and make a corresponding allowance. If she does lose her mental equilibrium, she should give the baby one teaspoonful of lime water mixed with one teaspoonful of boiled water before the next nursing.

Care of the mother's nipples. The mother's nipples should be washed with boric acid solution or sterile

water before and after each nursing. If the mother has any discomfort at the time of nursing, the nipple should be inspected carefully to see if there are any cracks. A cracked nipple frequently leads to a sore breast which may result in an abscess. If a nipple is cracked, it should be washed with seventy per cent alcohol and painted with compound tincture of benzoin, applied with a camel's-hair brush twice a day. The baby should be nursed with a nipple shield. The nipple shield should be washed and sterilized before each time it is used.

Composition of breast milk. Breast milk is composed of fat, sugar, protein, salts, and water. The average percentages are: fat, 4; sugar, 7; protein, 1.50; salts, 0.20; water, 87.30. There may be considerable variation in the ingredients and the milk still be suitable food. Breast milk on which a baby thrives is a satisfactory food for that baby. If the milk looks thin, this is no reason why it should not be used.

The percentage of fat, if low, may be increased sometimes by adding fat to the mother's diet and by decreasing her exercise. These measures are not efficacious unless the mother is underfed and tired. The fat, if excessive, may be reduced by cutting down the amount of meat in the diet and by increasing the exercise to a point short of fatigue. The sugar cannot be modified to any appreciable degree. The protein, if high, may be low-

ered by increasing the exercise, not to fatigue, and by acquiring a calm mind.

The quantity of milk is increased by frequent nursing, i.e., the sucking stimulates the mammary glands to secrete, but the interval should not be less than three hours, except in rare instances. The milk is increased also by adding fluid to the diet. Incomplete emptying of the breasts results in decreasing the quantity of milk. Care should be taken that the baby empties the breast at each nursing.

INTERRUPTIONS TO BREAST-FEEDING

1. *Mother's illness.* Tuberculosis is always a contra-indication for nursing. Mental disease usually prevents nursing. Certain other chronic diseases may make nursing inadvisable. A short acute illness is no reason for giving up nursing. The question of whether or not breast-feeding shall be continued must be decided by the physician according to the circumstances in each instance.

2. *Menstruation.* Menstruation is not an indication for weaning. Sometimes, during the time the mother is unwell, the baby is slightly upset. When this is the case a teaspoonful of boiled water and a teaspoonful of lime water mixed should be given to the baby just before each nursing.

3. *Pregnancy.* Pregnancy is a positive reason for weaning.

4. *The baby.* A feeble or premature or very sick baby cannot nurse. Such a child should be fed on breast milk obtained by a breast pump from the mother or from a wet-nurse. Physical defects of the baby's mouth, cleft palate or hair-lip, may make nursing impossible. Milk must then be given by a medicine dropper or spoon, or Breck feeder.

5. *Unsuitable milk.* It is frequently said that the mother's milk does not agree with the baby. No baby should be weaned on this statement without careful investigation. The mother's diet and mode of life should be considered and changes made in accordance with what is found to be at fault. The trouble is usually that the mother tries to do too many things beside nursing the baby. It is to be remembered that green or slimy or curdy movements in a breast-fed baby who is doing well are not a reason for weaning. If the baby spits up, it may be because he is handled too soon after feeding or the flannel binder may be too tight or he may have taken too much food. If the baby has gas, he may be taking the food too fast, or the mother may be doing too much or may have indigestion. If the baby is uncomfortable from the gas, he may be picked up, put over the

shoulder, and gently patted on his back until the gas is expelled. Sometimes a hot-water bottle at the stomach will give relief.

6. *Insufficient breast milk.* The amount of mother's milk may be inadequate. This fact can be determined by accurate weighing; the appearance of the breasts is often very deceptive. To find out the amount of milk the baby gets at a feeding, he should be placed on the scales just before nursing, and again just after nursing. The gain in weight will represent the number of ounces of milk taken. It is, of course, unnecessary to take off the clothes for this, as it is the gain in weight, not the actual weight, which is of interest. The mother may also be weighed before and after nursing, and the number of ounces of breast milk taken determined by her loss in weight. Whether the amount of milk taken is sufficient depends upon the age and size of the baby. He will need in each twenty-four hours three to two and one-half ounces of breast milk for each pound of weight. The quantity required at each feeding can be determined by dividing the twenty-four hour amount by the number of feedings. The baby should be weighed at all the feedings because there may be considerable variation.

If there is not enough breast milk, and if the mother's diet and daily routine are not obviously faulty, one of

two procedures may be adopted. The deficiency of milk may be made up either by giving a cow's milk formula after each feeding, or by omitting entirely one or more breast feedings, and substituting a cow's milk formula in its place. The former method is better where the supply of breast milk is very small in proportion to the amount needed, and the latter method when the supply is nearly sufficient. In either method the cow's milk formula to be used should be the same as that given in the chapter on bottle-feeding, except that a baby taking mostly breast milk will usually digest a formula somewhat stronger than a baby of the same age on only cow's milk. If a baby is being nursed every four hours and the quantity of milk is insufficient, it is often possible to use both breasts at each feeding and obtain enough milk without using any cow's milk formula. If this is done, the first breast should be completely empty before the baby is put on the second breast. The side which is used last at this feeding should be used first at the next feeding.

It is usually desirable after the second month, even though the mother has a sufficient supply of milk, to give one bottle-feeding daily. This allows the mother to have a little more freedom and frequently makes it possible for her to prolong the period of nursing by keeping her from getting mentally and physically tired. It also has the advantage that it teaches the baby to take milk

from a bottle and so makes weaning much easier. One bottle may be given in place of any feeding during the day, and does not need to be given for the same feeding every day.

Normal feeding. Until the mother's milk comes into the breasts the baby usually does not need any food except a little boiled water. This boiled water should have sugar of milk added in the proportion of one level tablespoonful of sugar to eight ounces of water. Occasionally the breast milk is very slow in appearing and the physician may have to give a few bottle feedings. The baby should be put to the breast at the end of the first twenty-four hours. He should be nursed on alternate sides every four hours during the second day. During the next twenty-four hours, if the milk is sufficient, he may be nursed regularly every three hours from 6 A.M. to 6 P.M. and at 10 P.M. and at 2 A.M. or continued on the four-hour interval. If he is nursed every three hours, the intervals may be lengthened to four hours during the day as soon as the baby will allow it. The 2 A.M. feeding should be omitted as soon as the baby will go from 10 P.M. to 6 A.M. The uninterrupted sleep is good for the mother and the baby, and should be brought about as early as possible. The 10 P.M. feeding is usually continued for eight or nine months, or longer if the baby is not gaining. Many strong, healthy babies

only a few weeks old will go from 6 P.M. to 6 A.M. without nursing and gain satisfactorily.

The baby should be nursed at one breast only at each feeding unless the supply of milk in one breast is not sufficient. The baby usually gets all the milk in the breast in ten minutes. He should never nurse more than twenty-five minutes.

The baby should be held comfortably on the mother's arm and so placed that the nipple goes easily into his mouth. His breathing should not be interfered with by the pressure of the breast. It is sometimes better for the mother to lie down when nursing and put the baby beside her on the bed. Usually it is better for her to sit in a chair and hold the baby in a semi-upright position. If a baby is sleepy at nursing-time, he should be wakened and made to stay awake until the feeding is over. The mother should not be disturbed during the feeding-time by anything less than a serious emergency.

Wet-nurses. If for any legitimate reason a baby cannot be nursed by his own mother, the next best food is the milk from some other woman. It is often very difficult to secure a satisfactory wet-nurse, and one is not absolutely necessary in every instance. Whether one is needed for a particular baby must be decided by a physician. In selecting a wet-nurse one must be certain that she is free from physical disease. This cannot be proved

definitely for syphilis, one of the most important diseases to eliminate, without an examination of the blood. This should be made in every instance where a wet-nurse is engaged, whether syphilis is suspected or not. The mental equipment of the wet-nurse need not be considered except for the sake of household peace. The wet-nurse's baby must be well. He need not be of the same age as the baby to be nursed, but should not be as old as eight or nine months, as the mother's supply of milk will not be sufficient for long after that.

Weaning. Weaning should take two or three weeks. It should not be done suddenly. A bottle-feeding should be substituted for a nursing every third or fourth day until all the feedings are from the bottle. By this method the mother will have no trouble with her breasts and the baby will have time to become accustomed to the change in food. The mother need not take any special measures to stop her milk, except that she should omit the extra fluid which she has been taking and should be sure that her bowels are not constipated. She need not proceed in the weaning faster than her milk disappears, unless there is some definite reason for more rapid weaning. A baby should not be weaned before ten months without the advice of a physician. Every baby should be weaned entirely at the age of one year. It is better not to wean a baby in the middle of

the summer, if it can be avoided, but it is better to nurse a baby for a part of the summer and then wean him than not to nurse him at all. The formula to be used at the time of weaning should be the one given for a baby slightly younger than the baby to be weaned, provided he has had no cow's milk previously. If he has been having some cow's milk daily, the formula he has been having should be continued until he is entirely weaned, and then may be strengthened according to the general outline in Chapter V.

CHAPTER V

BOTTLE-FEEDING

1. *Cow's milk.* The best substitute for breast milk is properly modified fresh cow's milk.

Cow's milk differs from human milk in several particulars. Its chemical analysis shows a considerable variation in the percentage of fat in different samples. The fat is not as easily digested as the fat of human milk. The sugar is less in cow's milk, but of the same kind as in human milk. The protein or albuminous portion in cow's milk is usually greater than in human milk and contains a larger proportion of casein or curd. The curd is not as digestible as in human milk. The salts of cow's milk are also different from those in human milk. There are certain other differences which at the present time we do not fully understand, but which render cow's milk less desirable for infant feeding than human milk. Cow's milk also differs from human milk in that it is not delivered directly from the source of supply to the baby, but comes through many intermediary individuals. This delay in delivery introduces elements of danger from the persons who handle the milk and from the utensils in which the milk is placed.

2. *Dry milk.* Dry milk is milk from which the water has been removed. It is made from whole milk and from skimmed milk. A superior grade of milk is usually used for preparing dry milk. When fresh, clean cow's milk cannot be obtained dry milk is the best food to use. It may be used also for an occasional bottle feeding for a breast-fed baby. It is serviceable in some instances in which liquid milk is not well digested. It may be used for long periods of time as a partial or complete substitute for liquid cow's milk.

3. *Condensed milk.* Condensed milk is milk from which a part of the water and often some of the cream has been removed. Many brands of condensed milk have sugar added. Condensed milk is frequently made from an inferior grade of milk. It is a form of food which should be used only as a temporary expedient for traveling or some similar occasion. As a constant diet it is not a good food for growing infants.

4. *Goat's milk.* Goat's milk, mare's milk, and the milk from various other animals furnish food for infants which may be used under certain circumstances, but should be employed only on the advice of a physician.

5. *Proprietary foods.* There are various proprietary foods, so-called "baby foods," on the market. In gen-

eral they are of two kinds, those to be made with milk and those to be made without milk. Those made with milk are for the most part expensive additions to the modification of cow's milk and are not necessary. Those made without milk do not furnish a satisfactory food. When they are diluted in the proportions advocated on the can, the resulting mixtures are very low in certain ingredients which are necessary for the baby's growth. They should be limited in their use to the rare instances when a baby cannot digest cow's milk. They should be used then only on the advice of a physician.

Choice of the milk. In choosing the milk for an infant, certified milk should be used wherever possible. The term "certified milk" is used to describe raw milk which fulfills certain standards recognized throughout this country which have been established by Medical Milk Commissions. If milk is certified, one may be reasonably sure that it is a proper milk. If the milk is certified, it will be so marked on the bottle or cap. No milk should be accepted as certified merely upon the statement of the milk dealer. If anything occurs at the dairy which renders the milk temporarily unsafe, the certificate will not appear on the bottle. The milk should be sterilized until the certificate is returned.

If certified milk cannot be obtained, the milk to be used must be investigated in each instance. It is neces-

sary for milk used in infant feeding to fulfill the following conditions: —

1. Kind of cows. Holstein or Ayreshire cows are the best breeds from which to get milk. Jersey and Guernsey cows give milk too rich in fat. If milk from these cows is used a part of the cream should be removed. It is better to have the mixed milk from a herd than milk from a single cow.

2. The cows should be clean and free from all disease. This should include freedom from tuberculosis as proved by the tuberculin test. Many farmers are prejudiced against this test, but at the present time it is the only means we have of being sure that cows are free from tuberculosis. One should insist that the test be applied to the whole herd at least once a year, and all reacting animals immediately removed.

3. The barns in which the animals are kept should be clean. The dairy in which the milk is handled should be clean and protected from flies. The utensils used for the milk should be carefully washed and sterilized.

4. All individuals who have to do with the production or handling of the milk should be free from disease. They should be careful to keep their clothes and hands clean.

5. The milk should be bottled at the farm and immediately iced. There should be some method of protecting the bottle from being opened until it is delivered.

Milk should be cooled immediately after milking and should be kept sufficiently iced to keep it cold until it is delivered. Milk does not need to be delivered within a few hours of milking. It is very much more important to see that the conditions mentioned above have been fulfilled than to have the milk delivered fresh.

In many cities "Grade A" milk can be obtained. This is a very good quality of milk, of low bacteria count and produced from tuberculin tested cows. It is delivered pasteurized.

Care of the milk. After the milk has been received in the home, it should be protected from any possible contamination and kept at a temperature between 45° and 35° F. One should remember that hot air rises, so that the thermometer must be placed at the top of the ice chest to register the temperature. It is most desirable to keep the baby's milk in a separate ice chest or in a separate compartment of a big ice chest. It should be a rule that no person except the one feeding the baby should ever touch the milk used for feeding.

Certified milk is frequently given raw to babies. There are so many possibilities for the introduction into milk of harmful germs that it is safer to pasteurize or boil all milk used for infant feeding. Both pasteurization and boiling kill the harmful germs and also produce certain changes in the milk. These changes so far as

they have practical significance are three in number. The taste is altered. Infants soon become accustomed to this and if they have never had raw milk no objections are made. The "freshness" is decreased. The only principle greatly reduced can be supplied in the diet by the addition of fruit juices. It is slightly constipating. This can be corrected by modifications in the formula.

Pasteurization. Pasteurization destroys most of the bacteria, but it does not destroy certain spores of bacteria. It is accomplished by raising the temperature of the milk to 145° F. and keeping it at this temperature for thirty minutes. There are several expensive pasteurizers on the market, but they are not necessary. The following method may be used with ease in any home. Fill the feeding bottles with the modified milk and place them in the wire rack. Put the rack in a dish filled with water to just above the level of the milk in the bottles. Stand a thermometer in one of the bottles. Heat the water until the thermometer registers 145° F. Keep the milk at this temperature for thirty minutes. Take out the rack and cool the milk by carefully setting it in cold water. Place the milk in the ice chest.

Boiling. It is better to boil milk in a double boiler with the top on than to boil it in an open vessel. The

milk should be put in the inner receptacle and the outer receptacle filled with cold water. The double boiler should then be put on the stove and left there until the milk in the inner receptacle has begun to bubble and should then be left on the stove for three minutes longer. If the milk is to be put over the flame, great care should be taken that it does not burn.

It is much easier to boil than to pasteurize milk and it is slightly safer. Except that boiled milk is more constipating it has no practical disadvantage.

Care of the utensils. All the utensils used for preparing the baby's milk should be carefully sterilized. This is done by boiling for five minutes.

For the modification of milk the following utensils are needed: —

A big dishpan. This should measure at least eighteen inches in diameter and should be reserved exclusively for use in sterilizing. In this all the utensils can be placed and boiled at one time.

Bottles. These should be selected so that there are no inside corners which cannot be cleaned. The opening at the top should be large enough to admit a brush for scouring. A four-ounce bottle is large enough at the beginning; an eight-ounce bottle will be needed later.

A brush for scouring the bottles on the inside.

A pitcher holding two quarts. This may be either

enamel or agate ware. Enamel ware is more attractive, but chips after a time and has to be replaced.

A sixteen-ounce glass graduate.

A silver knife.

A tablespoon.

A teaspoon.

A cream dipper. The modified Chapin dipper is the best.

A small funnel, either enamel or agate ware.

Nipples. Choose nipples that can be turned wrong side out to be cleaned. Buy nipples without holes and make the holes of a proper size. Usually a number ten cambric needle will make a hole of the right size.

A teapot. This should be enamel or agate ware. This is to be filled with water, boiled, and a piece of sterile absorbent cotton placed in the nozzle. The water is then easily kept sterile for use as needed.

A wire rack for holding bottles.

A roll of sterile absorbent cotton.

Rubber stoppers, or a roll of sterile non-absorbent cotton to make stoppers for the feeding-bottles.

Preparation of the formula. Formulas are made either from whole milk, from top milk, or from cream and skimmed milk. Nearly all well babies can be fed successfully on dilutions of whole milk. The following directions are for use with whole milk dilutions. Shake the

bottle of milk so that the cream is thoroughly mixed. Pour into the sterilized glass graduate the number of ounces of milk called for in the formula. Place in a double boiler and boil for three minutes. Put back into the graduate and add enough boiled water to replace what has boiled away. Put in a sterilized pitcher.

Put the amount of sugar called for in the directions in the graduate and dissolve in a few ounces of boiled water. Add enough boiled water to make up the required amount. Put into the pitcher with the milk. Stir the contents of the pitcher with a spoon. Pour the required number of ounces for each feeding into the feeding-bottles and put a small pledget of sterile non-absorbent cotton or a sterile rubber cork in each bottle. Place the bottles in the rack and put into the refrigerator. If it is impossible to make provision for so many bottles in the refrigerator, the whole formula can be put back into the original milk bottle and covered, and poured out from this into the feeding-bottles as needed.

Feeding. When feeding-time comes take a bottle from the ice chest, shake to mix the cream which will have risen, heat to body temperature, and put on a nipple. It is not necessary to test the temperature of the milk by a thermometer. If it feels neither hot nor cold when dropped on the wrist, it is the right temperature. The holes in the nipple should be large enough so that when

UTENSILS FOR MODIFYING MILK

the bottle of milk is inverted the milk will drop rapidly, but will not run. During the feeding the milk can be kept warm by putting a worsted cozy over the bottle, or by putting the bottle into a thermos case specially made for this purpose. If the baby leaves any milk at a feeding, this milk should be thrown away and not used again. After the feeding the bottle should be rinsed clean with cold water and kept filled with water until sterilized again. Never keep the baby's milk warm from one feeding to another in a thermos bottle. This makes the bacteria grow rapidly and may be the cause of serious illness. If it is necessary to feed the baby at a time when the milk cannot be heated as usual, hot water may be carried in one thermos bottle, the baby's milk cold in another thermos bottle, which has been sterilized by rinsing with boiling water. The milk may then be heated at feeding time.

Choice of a formula. The choice of the formula should be made by a physician. Babies cannot be fed by rule of thumb. Each child must have his food adapted to his individual digestive ability. There are given below a few simple principles which may be of service to mothers who for any reason cannot consult a physician. A mother should not attempt to direct the feeding of her baby when she can get the advice of a physician.

The food given to a baby is utilized to maintain life and produce growth. The amount of food to be given is measured in the fluid and the food elements required in each twenty-four hours on the basis of the age and the weight of the baby. There is considerable variation in the requirement between individual babies. Size and activity influence this variation to a marked degree. The fat, quiet baby requires less food for his weight than the thin, active baby. A baby who is underweight needs more food than his actual weight would indicate.

Fluid. In each twenty-four hours a baby should take three to two and one-half ounces of fluid for each pound of weight. This is furnished by the formula and by the water or other liquid which he takes between feedings. The larger proportional amount is needed by the younger baby. A baby one month of age weighing eight pounds should have approximately twenty-four ounces (three times eight) of fluid in each twenty-four hours. Three to three and one-half ounces of formula every three hours, seven feedings, or three and one-half to four ounces every four hours, six feedings with one or two ounces of boiled water between feedings.

A baby six months old weighing sixteen pounds should have at least forty ounces (two and one-half times sixteen) of fluid in each twenty-four hours — seven ounces every three hours, six feedings, or eight ounces every

four hours, five feedings, and water and orange juice in addition between feedings.

Food elements. These are fat, carbohydrates, protein, salts, and so-called "vitamines." They are furnished by cow's milk and by vegetable and fruit juices. Cow's milk alone is adequate except in carbohydrate to supply these food elements for the first five months. Carbohydrate is added in the form of sugar and cereal water. A baby needs in each twenty-four hours not less than one and one-half ounces of cow's milk for each pound of weight. This is a minimum allowance and most well babies will take more than this amount. In addition a baby should receive in each twenty-four hours approximately one-tenth of an ounce of sugar per pound of weight. A six months old baby weighing sixteen pounds should have at least twenty-four ounces of milk and approximately one and three-fifths ounces or three and one-quarter level tablespoonfuls of sugar (sugar of milk) in each day's feedings. The exact amounts to be used and the kind of sugar must be decided by the physician in accordance with the requirements and digestive ability of the individual baby.

A full term normal baby weighing seven and one-half pounds will usually take a formula made as follows: —

Whole milk, 10 ounces.
Boiled water, 12 ounces.
Sugar of milk, 2 level tablespoonfuls.

This is slightly below the actual requirement in food elements for weight. It is safer to begin with this weaker mixture and increase it rapidly (daily or every other day) than to run the risk of upsetting the baby with a stronger feeding. This amount may be divided into seven three-ounce feedings or six three and one-half ounce feedings. The baby should be started with less than the full quantity at each feeding. For the first formula feeding, usually on the second or third day, the baby should be given the same amount as he has been taking of sterile water or sugar solution. When the baby seems hungry the amount may be increased gradually by one quarter of an ounce amounts daily until he is satisfied or the whole quantity is taken.

As the baby increases in age and size more fluid and more food are needed. These are furnished by adding more milk, sugar, and water to the original formula. The milk should be added one ounce at a time and the sugar one-half tablespoonful at a time. Not more than one quart of milk nor more than four and one-half tablespoonfuls of sugar should be used. Water should be added to the formula one ounce at a time to make the total amount of fluid in the day sufficient. When an increase in milk makes the total amount of the mixture too large for the day's supply, as much water should be omitted as milk is added. The sugar should be reduced at the same time as the water, one quarter of a table-

spoonful for each two ounces of milk. This process may be continued until no water or sugar remains. The age at which the baby will be taking undiluted whole milk varies, but it is usually by the time he is ten months old.

Top milk. Sometimes it is desirable to give more fat in the mixture than is possible by a simple dilution of whole milk. Top milk may be used in such instances. It is obtained by pouring off the top twenty-four or the top sixteen ounces from a quart of milk which has stood from four to six hours or until the cream has risen. The amount of milk poured off depends upon the amount of fat desired. It is rarely necessary to use top milk mixtures except in very young babies.

Barley water. At the age of five months, and sometimes earlier, barley water may be substituted for boiled water in the formula. This should be substituted when the baby is not gaining weight. It may also be substituted in many instances when the movements are not well digested.

Groats. Some babies do better with groats water than with barley as it is slightly more laxative. It is used in the same manner as barley water.

Lime water. Lime water is frequently used in milk formulas, but is not necessary in every instance. It may be added to a formula if the baby is inclined to spit up, or if the stools are too frequent and slightly green in color. The lime water should replace an equal amount of boiled water, the total amount of the mixture remaining the same.

Sugar of milk, or lactose. Lactose is the sugar occurring in milk and is used often for the additional sugar in the formula. Any of the various brands made by a reputable concern may be used.

Malt sugar. Malt sugar is used frequently instead of sugar of milk in the formula. It is sometimes of advantage to use malt sugar when the baby does not digest sugar of milk well, or when he does not gain in weight, or when he is constipated.

Cane sugar. Cane sugar, or ordinary granulated sugar, is used also in formulas. It is cheaper than the other sugars, and with well babies is usually satisfactory. The kind of sugar to be used in the formula should be decided by the physician.

Amount at a feeding. The size of the stomach is not a perfect measure of the amount of food to be given, for

usually the food begins to leave the stomach before all the feeding has been taken. A baby should not be given so large an amount of food as to distend the stomach, but he should be given enough to satisfy him. Usually at birth he will take from one half to one ounce. This amount can be increased rapidly during the first two weeks and then at the rate of a quarter of an ounce each week up to eight ounces at a feeding. Stating this in another way, an average amount of food for a baby to take is one ounce more than he is months old, if the feedings are every three hours and two ounces more than he is months old if the feedings are every four hours. Many babies will not proceed according to this general rule, but the quantities indicated above will serve as a guide for reasonable amounts. Big, healthy babies will take more than small, delicate ones.

The 2 A.M. feeding should be omitted as soon as the baby will go without a feeding from 10 at night to 6 in the morning. The 10 P.M. feeding should be omitted as soon as the baby will sleep through the whole night, but usually will be continued for nine or ten months.

Method of feeding. The bottle should be held through the whole nursing and not propped against a pillow. It should be taken out from the mouth occasionally to let the air into the bottle. The feeding should not be given rapidly, but should not take more than twenty or twenty-five minutes.

Feeding for hot days. On very hot days the baby should not be urged to take more food than he wants. He should be given cool boiled water to drink frequently. The formula should be diluted by replacing one ounce of the formula with one ounce of boiled water in each bottle.

CHAPTER VI

DIET TO TWO YEARS

Water. All infants should be taught to drink water. If they are given it from a bottle with a nipple during the first days of life, there is rarely any difficulty; but if they are not given it until later, it is sometimes hard to get them to take it. The temperature at which the water is given may be varied, from body temperature to cool, according to the way it is taken best. One to two ounces a day should be given to a small infant and three or four ounces two or three times a day to an infant one year old. The water should be boiled for the first year, and longer if there is any doubt about the purity of the supply.

Cod Liver Oil. Cod Liver Oil should be given to every bottle-fed baby at three months of age and to every breast-fed baby as soon as he is weaned. Begin with fifteen drops twice a day and at nine months of age increase to twenty-five drops twice a day. It may be given in the formula but if the baby objects to the taste it is better to give it with a spoon. In the morning it may be given in the orange juice and in the afternoon in the prune juice when these are being taken.

Orange juice. At the age of five months, orange juice should be added to the diet. It should be given in the morning just before the bath. Two teaspoonfuls should be given at first and the amount gradually increased up to one tablespoonful, or the juice of one orange if the effect is not too laxative. If the orange is not sweet, a little granulated sugar may be added.

Prune juice. At six months of age or at any time after that prune juice may be added to the diet. It should be given at 4.30 or 5 P.M. with the water, if constipation is present.

Gruel. At eight months of age barley or oatmeal gruel may be added to the diet. It should be given warm and fed with a spoon, just before or just after the bottle. At first the amount should be one level tablespoonful once a day — with the 10 A.M. feeding. This may be increased rapidly to three tablespoonfuls twice a day — at 10 A.M. and at 2 or 6 P.M.

Bread. As soon as four teeth are through — two on each jaw — dry toast, unsweetened zwiebach or plain crackers may be added to the diet. They should be given unsoftened with the 10 A.M. or 2 P.M. feeding or at 4.30 or 5 P.M. with the water or prune juice. Untoasted bread may be given at fourteen months.

Vegetables. At ten months of age strained vegetables should be added to the diet. Vegetables should be added earlier than this in many instances when the substances furnished by them are especially needed. They should be cooked in a small amount of water or steamed, and put through a medium fine strainer. They should be served as a purée, or in broth with the 2 P.M. feeding. Spinach, carrots, peas, string beans, asparagus, beet greens and lettuce may be used. If given as a purée begin with one teaspoonful. After the eighteenth month they may be given unstrained but should be mashed finely with a fork. The quantity may be increased to two tablespoonfuls.

Broth. At ten months of age broth may be added to the diet. It is valuable chiefly as a medium for giving vegetables. Vegetable soup (see page 143) should be given with the 2 P.M. feeding. Begin with one ounce and increase to 5 or 6 ounces. The milk given at this feeding should be reduced in an amount equal to the quantity of broth given so that the total food will not exceed eight or nine ounces. The soup may be given two or three days in succession.

Beef juice. At ten months of age beef juice may be added to the diet. This should be given with the 2 P.M. feeding on days when vegetable soup is not given. Begin

with two teaspoonfuls and increase up to two ounces. Purée of vegetables may be given at the same time.

Rice, macaroni, spaghetti. At about ten months of age rice, macaroni, and spaghetti may be added to the diet. They should be thoroughly cooked and one or two tablespoonfuls given with the 2 P.M. feeding on days when vegetable soup is not given.

Stewed fruit. At thirteen months of age, apple sauce or well-cooked baked apple or prune pulp may be added to the diet, especially if there is any constipation. These may be given at the 5.30 P.M. feeding. At first not more than one tablespoonful should be given, but this may be increased gradually to two or three tablespoonfuls.

Cereals. At fourteen months of age any of the home-cooked cereals, such as farina, cream of wheat, oatmeal, or Pettijohn's may be substituted for the gruel. They should be strained at first, but after the fifteenth or sixteenth month may be given unstrained. They should be thoroughly cooked, served with milk poured over them, not cream, and with a little salt, but no sugar. The amount may be four or five tablespoonfuls.

Potato. At fourteen months of age baked potato may be added to the diet. A dry mealy potato should be

selected, a small one at first, then a medium-sized one. This should be given in the middle of the day in place of the rice or macaroni or spaghetti. At about sixteen or eighteen months of age mashed potato may be given.

Butter. At fourteen to sixteen months of age butter may be added — served on bread or on potato. The butter should be made from cream of tuberculosis free cows or from cream which has been pasteurized. Not more than one medium-sized butter ball should be given at a meal.

Egg. At fourteen to sixteen months of age an egg may be added to the diet. It should be soft-boiled or coddled. At first one half of an egg should be given, but this can be increased rapidly to a whole egg. It should be given not more than three times a week at the 2 P.M. feeding in place of the broth or beef juice.

Desserts. At sixteen to eighteen months of age simple desserts may be given, such as junket, custard, blanc mange, tapioca, and rice pudding without raisins.

Meat. As soon as the first four molars are through a little scraped beef, or minced chicken or minced lamb may be added. The amount at first should be not more than a teaspoonful, but may be increased gradually to a

tablespoonful. This should be given, not more than once a week at first, at the 2 P.M. feeding in place of either the broth or the beef juice or the egg.

Milk. At one year of age a baby should be taking one quart of undiluted milk without any added sugar. The amount should be decreased gradually to twenty-four or twenty-six ounces. This is done by reducing and finally omitting the milk with the 2 P.M. feeding. At one year the milk should be taken from a cup.

Hours of feeding. At the tenth month a baby should be on four hour feedings — four or five feedings in the twenty-four hours, 6, 10, 2, 6, and 10. During the next few months these hours may be changed so that the first meal comes at 6.30 or 7 A.M.; the second meal between 10 and 11, just before the nap; the third meal between 1 and 2, after the nap; and the fourth meal at 5.30, before going to bed. The time for the second and third meal for any particular child should be the same on every day.

Diet at thirteen or fourteen months —

6.30–7. Strained cereal or gruel — 2 or 3 ounces.
Milk — 8 ounces.
8.30. Orange juice.
10–10.30. Milk — 8 ounces.
Zwiebach or dry toast.

1.30–2. Vegetable soup — 5 or 6 ounces.
Milk — 3 to 2 ounces.
Zwiebach or dry toast
or
Beef juice — 1 to 2 ounces.
Vegetable purée — 1 tablespoonful.
Rice or macaroni or spaghetti — 1 to 2 tablespoonfuls.
Bread or toast or cracker — ½ to 1 slice.
Milk — 4 or 5 ounces.

5.30. Milk 8 ounces.
Cereal or gruel — 2 or 3 ounces.
Apple sauce or prune juice — 1 tablespoonful.

Sometimes the 6.30 and 10 A.M. feedings are reversed.

Diet at sixteen to eighteen months —

7. Cereal.
Bread and butter.
Milk — 8 ounces.

8.30. Orange juice.

10–10.30. Milk — 8 ounces.
Cracker or toast.

1.30. Egg or beef juice or minced meat.
Potato or rice or macaroni or spaghetti.
Green vegetable.
Bread and butter.

Simple dessert.
Milk — 4 or 5 ounces.

5.30. Cereal.
Milk — 8 ounces.
Bread and butter.
Apple sauce or prune juice.

An egg may take the place of the cereal in the morning two or three times a week, but not on the day it is given for dinner. The orange juice may be given at 6 or 6.30 in the morning instead of at 8.30.

Diet at twenty to twenty-two months —

6.30–7. Orange juice.

7–7.30. Cereal.
Egg.
Bread and butter.
Milk.

10.30. Milk.
Cracker or bread.

1.30. Meat.
Potato.
Green vegetable.
Bread and butter.
Simple dessert.

5.30. Cereal.
Milk.
Bread and butter.
Stewed fruit.

CHAPTER VII

STOOLS

It is extremely important to keep careful watch of the baby's movements. A well baby usually has well-digested movements. Often an undigested movement is the first sign of trouble.

The following things should be noted: —

The number of movements in the twenty-four hours.

The color.

The size.

The consistency; that is, whether soft or formed.

The odor.

The presence of any unusual or abnormal material.

The characteristics of movements vary in accordance with the kind of food which the baby eats. Therefore it is important to know what normal movements are like on the various kinds of food.

Meconium. During the first forty-eight hours of life the baby's movements are dark greenish brown and very sticky. This is meconium, and gradually disappears.

Breast milk. A baby fed on breast milk usually has three or four medium-sized movements in the twenty-

four hours. They are bright golden yellow, and are soft, not formed. They smell a little sour. Frequently the movements of a baby who does not seem sick in any way and who is gaining weight are slightly green, and contain fine, soft, white curds and mucus. They should not be considered abnormal, and require no treatment.

Cow's milk. A baby fed on cow's milk almost always has fewer movements than a breast-fed baby, and often has only one movement in the twenty-four hours. The movements are much firmer in consistency, and often are formed. They are light yellow, and not golden. Their odor is often a little cheesy.

Skimmed milk. A baby fed on skimmed milk has smooth, formed, well-digested movements, dark brown, and often with a very foul cheesy odor.

Whey. A baby fed on whey usually has more frequent movements than on full milk. Whey does not otherwise modify the characteristics of the movements.

Buttermilk. A baby fed on buttermilk has dark brown, smooth, salve-like movements with a peculiar slightly acid odor.

Malt sugar. When malt sugar is used in the formula, the movements are a dark brown, sometimes

with a slight green tinge, and frequently have an acid odor.

Starch. When starch is added to the food, as in barley water, the movements become dark brown, and are shiny in appearance.

Mixed diet. When food other than milk and cereal water is added to the diet, the movements lose their infantile appearance and begin to assume the adult characteristics. They are one or two a day, are dark brown, formed, but not usually smooth or pasty. As vegetables are added to the diet, the movements contain fibers and are less compact. There is considerable variation from day to day in accordance with the kind of food eaten.

Abnormal constituents. Variations in the movements, other than those given above, usually indicate some form of indigestion. When the movements are not normal, the physician should be notified.

Color. The movements may turn green on standing, although they were of normal color when passed. This is due to the action of the air on the bile, and does not indicate indigestion. A movement which is green when passed, or which is very light colored or white is not

normal. A normal movement sometimes leaves a pink stain on a diaper. This means usually that the baby requires more water in his diet.

Irritating. Sometimes the movements are frothy, and very irritating to the buttocks. This indicates that the movements are acid and, as a rule, that the baby is getting too much sugar in the diet.

Curds. Curds may be present in the movements. Fine, white, soft curds which can be flattened out when squeezed are composed of fat and may mean too much cream in the diet. A hard, dry, crumbling movement is usually an indication of too much cream. Hard, tough, bean-like substances, which are rather brittle and break if squeezed, mean that the protein in the milk is not being fully digested. Sometimes this condition needs no treatment; sometimes the addition of lime water or barley water is indicated. The physician must decide this matter.

Mucus. All movements contain a small amount of mucus, but this is so small that it cannot be easily detected. Mucus is a part of the normal secretion from the intestinal canal, but under any form of irritation the amount secreted is increased. When it is present in sufficient amount to be easily seen, there is probably some form of indigestion.

Blood. Blood may appear in the movements from different causes. If it appears as a bright speck on the outside of the movement, it means that the baby has strained hard and caused a little crack on the surface of the lower intestine. This usually accompanies a large constipated movement. If the blood appears mixed with the movement, especially if there is mucus also present, it indicates a serious kind of indigestion and should be immediately reported to the physician.

CHAPTER VIII

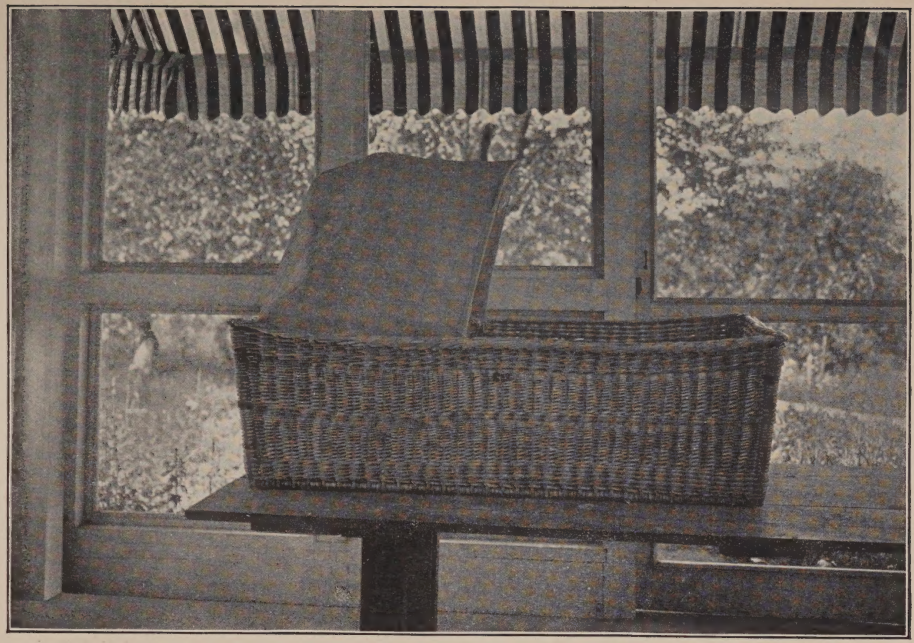
HABITS AND TRAINING

Regularity. Regularity is the most important factor in the life of the baby. He becomes at once a creature of habit. If a good habit can be established it will be much better for his character and for his digestion, and it will be much easier to take care of him.

Going out of doors. In warm weather a normal, healthy baby may be put out of doors after he is a few days old; in cold weather not until he is two weeks old. No infant should be put out of doors when the temperature is below 20° above zero. He should not go out when the temperature is below freezing unless the sun is shining. A baby should not go out on a very windy day; not so much because of the wind as because of the dust which accompanies it.

Sleeping out. In regard to temperature for sleeping out the rules are the same as for going out. A baby should not sleep out of doors at night in the winter. When sleeping out in the daytime he should be put in a basket with a hood over it to furnish protection from the light and wind.

Wheeling. A young baby does not need to be wheeled.



SLEEPING-BASKET

He is much better to sleep quietly in his bed out of doors. Wheeling tends to make him demand attention. Its chief value is in giving the nurse exercise. When the baby is too old to stay in his basket on a balcony, he may then be taken out in a baby carriage for a part of each day.

Exercise. The baby should be given a chance to exercise every day. The best time for this is in the afternoon at four-thirty or five o'clock. He should be placed on a large bed or in a raised play pen in a warm room and allowed to kick and play for twenty minutes or half an hour. All his clothes except the band may be removed. It is better during this time to leave the baby to his own resources of amusement than to talk and entertain him. Older babies will have a longer play-time, and in the summer this will be spent out of doors.

Sleeping. Newborn babies sleep most of the time. As babies grow older they sleep less, but for the first six months they should sleep eighteen hours out of the twenty-four.

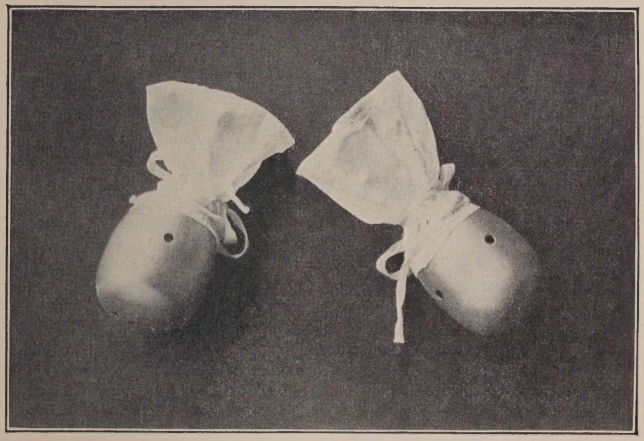
A baby should not have any pillow. He should be turned from the side on which he has been lying to the other side after each feeding, so that he will not be constantly in the same position. When he is put to bed to sleep he may be wrapped in a shawl, or sleeping-blanket.

He should be covered sufficiently to keep him warm, but not so much as to cause perspiration. In cool weather he should be protected from a direct wind when he is asleep. In hot weather he should be put in as cool a spot as possible. He should go to sleep alone, without rocking or patting.

Sleeplessness. Sleeplessness may be due to a number of causes. Sometimes a baby is put in an uncomfortable position or his clothing may be tight or wrinkled or he may have a pin sticking into him. Not infrequently he is overfed, rarely is hungry, often is overtired.

Crying. Crying may be due to pain either from uncomfortable clothing or from an uncomfortable position or from an injury or from illness. Many babies cry to be taken up. This is a matter of habit, and the more they are taken up the more they cry. When a baby starts to cry, see that he is lying in a comfortable position, that there are no pins sticking into him, that he has not spit up or had a movement, and that he is not wet. Provided no cause for crying is found, it is better to leave the baby alone and let him cry it out. A baby will not do himself any harm by crying.

Nervousness. Many babies are believed to be nervous, when the real trouble is that his parents are nervous and irritate the baby. Most "nervous" babies are cured by



ALUMINUM MITTENS

being placed in the hands of a calm nurse and by not being entertained constantly. All babies should be protected from undue excitement, but some babies require more careful watching in this particular than others.

Movements. A baby can be trained to have a movement regularly each day by putting him on the chamber in the morning at a definite time. Some babies can be trained from the first few weeks of life, others not until later. The baby should be taken up as early as possible in the morning, if he has not already had a movement, and held over the chamber with his back resting against the mother's chest. If necessary a suppository of glycerine or soap may be used to start the movement for the first few mornings. Grunting by the mother stimulates a desire for imitation on the part of the baby, which will frequently result in a movement.

Thumb-sucking. Thumb-sucking is a habit very easily acquired, but hard to break. The best cure is to prevent the formation of the habit. If the habit is formed, the earlier it is broken the easier. Bitter substances put on the thumb are usually not very efficacious. Aluminum balls may be put over the hands, or splints applied to the elbows so that the arm cannot be bent, or the arms pinned to the sides so that they cannot be raised.

Sometimes a baby sucks a blanket or pet animal on

going to sleep. This causes restless sleeping and a badly shaped mouth, besides being a dirty habit. If the article is taken away, the habit is soon broken, though usually the baby cries the first few nights.

Pacifier. A pacifier should never be used. It is dirty, and its use quickly establishes a bad habit.

Mouth-breathing. Mouth-breathing is caused by obstruction to the passage of air through the nose. This usually is due to enlarged adenoids. Whether an operation should be performed or not must be decided in each instance by the physician. After the cause of nasal obstruction has been removed, mouth-breathing sometimes persists because the habit has been formed. It is objectionable for many reasons, chief among which is the fact that the air is taken directly into the lungs without being freed from dust, and without being warmed or moistened.

Masturbation. Masturbation is the habit of rubbing the genitals. It may be done with the hands, by rubbing against some object, or by rubbing the thighs together. It is common in both male and female babies even in early infancy. It may be started because of local irritation or lack of cleanliness, or because of adhesions. If any local cause is present, it should be removed. If

the practice is made of rubbing the thighs together, this may be prevented by putting a pad inside the diaper or between the knees, which will keep the legs apart. Any constantly repeated act which causes friction or the genitals should be investigated. The habit can be broken only by constant watchfulness.

Toys. Toys should be selected, if possible, which can be cleaned. Woolly toys get very dirty and are hard to clean. A great variety of toys is bad for a baby. He plays with one toy only a short time and then demands another. This develops lack of concentration. He is just as happy with one simple toy as with many complicated ones.

Handling. The baby should not be picked up or handled for any one's amusement. It is better for him to be left alone most of the time. He can be held just before a feeding for a few minutes and after the exercise time.

Kissing. Great care should be taken in allowing any one to kiss the baby. No one should kiss him on his mouth. Care in this matter does not necessitate the forbidding of all expression of affection.

Visitors. The baby should not be brought out to show every time any one comes to the house. Constant

showing off results in a fussy baby. He should be left alone except for certain times in the day, when he can be seen by friends, never more than two at a time. The best times for him to be seen are during the bath and during the exercise in the afternoon. It should be remembered that older children in a family may be as tiring for the baby as outsiders.

CHAPTER IX

CLOTHES

In the baby's first two years three sets of clothes are needed.

First: Long clothes.

Second: Short clothes.

Third: Clothes for a child beginning to creep and walk.

The size and vigor of the baby, the time of year when he is born, and his growth, all determine the exact age at which he puts on short dresses, rompers, or shoes. Some mothers will buy more sets than others. In general this list corresponds to natural periods of the baby's life. The number of each garment provided will depend partly on the mother's preference and partly on laundry facilities. As woolen garments, nightgowns, and diapers are usually washed every day at home, suggestions follow as to a practical number for the average family. The number of stockings, white dresses, rompers, bonnets, etc., is not considered, as the supply must depend on individual taste and means.

First Set

4 flannel binders.
4 knitted bands.
4 knitted shirts.
3 flannel gertrudes.
Long white dresses.
3 nightgowns.
4 dozen diapers.

Flannel binders. These should be made of firm quality all-wool flannel, and should not be hemmed. They should be adjusted snugly, but not tightly, and fastened with tiny safety pins, or tapes sewn on to the binder. One thickness of flannel over the abdomen is sufficient. Do not fasten the binder in the back, as the baby lies often on his back; nor directly in front, as this may wrinkle the binder over the navel dressing. Fasten it at one side. Do not bring it down so low that the baby's legs cannot be drawn up in the usual sleeping position, nor so high that the chest is constricted. It can be cut to fit the individual baby. The flannel binder may be dispensed with at the age of three or four weeks, if the cord has come off and the navel is in good condition and not bulging.

Knitted bands. These may be of silk and wool or cotton and wool. The shoulder straps should be knitted into the band to avoid any rough joinings. There should be no rough inner seams.

The sizes of all knitted goods vary with the style, but the first size is sometimes too small for any but a very small baby. On the other hand, the band and shirt should not be so large that they wrinkle.

Knitted shirts. These should be high-necked and long-sleeved, of cotton and wool or of silk and wool, or of

FIRST SET OF CLOTHES

silk or of cotton for babies with easily irritated skin, and should be knitted with no rough inner seams. For the summer the thinnest weight is needed, and even for the winter very thick flannels are not advisable. The flannels should be varied according to the weather and the individual baby. Dress the baby according to the temperature and not according to the season. The tendency is to keep a baby too hot rather than too cold. When he perspires and lies in wet underclothes, his skin often becomes irritated and he is made less able to resist "catching cold."

As with the band, the next to the smallest size shirt is often the most practical. Be sure that the shirt is large and smoothly woven in the arm's eye. The baby's skin needs particular care in this place, and any roughness or tightness in the shirt may cause irritation. Be sure, also, that the seam or insertion for the gathering-string at the neck is smooth. In putting on the shirt, be careful not to pull the gathering-string tight enough to cut the baby's neck.

Flannel gertrudes. These should be made of all-wool flannel or of a flannel with some cotton admixture, not of Canton flannel or flannelette. The gertrude may open either on the shoulder or in the back. If it opens in the back, very small buttons should be used.

White dresses. These should have no waist line, should be loose in the arm's eye, and should have no hard lace or embroidery at the neck or sleeves. If the sleeve is gathered at the wrist, either fasten the wristband with a tiny safety pin so that the baby cannot catch his fingers in the puckers, or turn the sleeve well back so that the fingers are free. If the slip buttons in the back, use only the most delicate buttons.

Nightgowns. These should be of different weights for hot and cold weather, and may be made of flannel, cotton and flannel, or stockinet. The stockinet nightgowns are comfortable and wash very well. Pure flannel ones are pretty in the beginning, but they are difficult to wash, and become harsh and yellow after long use. Viyella flannel washes better than any other flannel, but it is expensive. Canton flannel and most of the fuzzy flannelettes, which look warm and pretty to begin with, are apt to lose their nap and become thin and brittle. Flannelette is also highly inflammable and therefore should not be used for a small baby.

Diapers. These should be made of cotton bird's-eye diaper cloth, or stockinet. The shaped stockinet diapers are absorbent and neat to use, but they are expensive. If hemmed diaper cloth is used, remember that a hand-made hem is softer than machine stitching.

The first diapers should be 18×36 or 20×40 inches. As the baby does not use the smallest ones for long, the first set may consist of two dozen small ones and two dozen 22×44 or 22×48. The larger ones can be used to put outside the smaller diaper to keep the flannel petticoat dry.

In putting on a diaper these things should be borne in mind: —

1. Have the diaper snug, but never tight enough to pinch the baby's stomach or legs. Vomiting and red lines about the leg are often the result of a desire to make the baby look neat.

2. Do not bring too many thicknesses up between the legs.

3. If the diaper is fastened to the band or shirt in front, do not fasten it tight enough to cause friction on the genitals. Tightness or rubbing here may result in irritation, or may cause the child to masturbate. In boy babies care should be taken that the penis is held down, not up, by the diaper.

If a small inside cloth from three to five inches square is placed next to the baby, the diapers will not become so soiled. This inside cloth is particularly useful when there is diarrhœa: it should be burned after using. Very soft crêpe paper diapers are sold, which are practical for use in traveling.

The diapers should be washed each time after they

become wet, even if they are not soiled. They should be boiled every day. Rubber stork pants or diapers should never be used, except, perhaps, on a journey or for some similar occasion. These rubber diapers keep in all the moisture, and they are therefore bad for the baby's skin.

Second Set

4 Shirts.
4 Bands.
3 Flannel petticoats.
Short white dresses.
Petticoats if desired.

Shirt and band. The baby often goes into short clothes when he is so young that the same shirts, bands, and nightgowns can be used. In this case the petticoats and white dresses are the only new garments needed.

Flannel petticoat. The flannel petticoat may be the gertrude cut short, or a flannel skirt made on a thin muslin waist. If the baby wears his dress and petticoat in bed for his nap, do not let him wear a regulation waist with buttons.

Third Set

4 bands.	Garters.
4 shirts.	Drawers.
4 knitted underdrawers.	Rompers.
Waists.	Dresses.

Flannels. If new flannels are bought for the second set, they often last through the whole next period. If the baby does not wet himself too frequently, knitted underdrawers should now be worn, at least in winter.

Rompers. Most children of this age wear rompers for their play periods. There are many patterns for these, almost all equally comfortable for the baby. One pattern, which buttons at the bottom as well as at the waist line, makes it possible to change the baby's diaper without removing the rompers.

GENERAL NOTES ON OTHER CLOTHING

Shoes. When the baby begins to walk, he may wear any loose, soft moccasin which is not too small and allows plenty of room for his toes. Stiff or slippery soles and tight lacing round the ankle should be avoided. The baby should not sleep with shoes on.

Stockings. A baby in long clothes, if his feet are warm, does not need stockings, except, perhaps, when he lies on the bed for his play-time. The first stockings worn should be of cotton or cotton and wool. Do not make the baby's feet perspire by putting on too thick stockings, but do not let the feet be cold because none are put on.

Underwaists. There are several varieties of babies' underwaists which are satisfactory. Care should be taken that there is no pull on the tip of the shoulders forcing them forward. The weight of the waist, etc., should come at the back and close to the neck so as to help keep the body upright. Waists approved by the American Posture League are the best to buy.

Bonnets. The baby does not need a bonnet for sleeping outdoors except in cold weather. The bonnet should not be so thick as to make his head perspire. Elaborate silk-trimmed bonnets are unnecessary, especially if the baby is not wheeled out.

Sleeping-bags. There are several good patterns for sleeping-bags, and pretty ones can be bought at any good infants' furnishing store. The heavy eiderdown ones commonly used are appropriate only for very cold weather. A sleeping-bag can be made easily by the mother out of a clean old blanket.

LAUNDRY RULES

Washing for a baby is an important part of its care. The flannels, knitted band, undershirt, etc., should be washed without a washboard, by soft squeezing with the hands in warm water and soapsuds. Use a clean unscented soap. The diapers should then be rinsed in

several waters of the same temperature. A sudden change from hot to cold water hardens the fiber of the wool, and takes away its delicacy and absorbing quality.

The cotton garments should be washed with a washboard with soapsuds and hot water.

There should be a large enamel or galvanized iron pail near the nursery, where wet diapers can be placed in water as soon as they are taken off the baby, and another pail or bowl for soiled diapers. The wet diapers should stand in water until they can be washed; the soiled diapers should be cleaned separately, first by pouring off the water in which they have stood, and then by removing all the solid stool with a knife kept for that purpose. The diapers should then be rinsed again in the same bowl, by pouring several waters into it, and throwing the rinsings, as well as the movement, down the water closet. Before a diaper, or other garment that has been soiled, is put into the washtub, all the solid substance should be removed, and only a stain left. Diapers should be boiled every day. These and the other wet diapers should be scrubbed on a washboard, with soapsuds and hot water, until they are clean. They should be rinsed in two or three soapless waters, more if the last rinsing does not show perfectly clear. Sore and raw buttocks often result from the use of improper soap or from insufficient rinsing. If some one else does the washing, do not merely give these directions, but make sure that

they are carried out. If the water is hard, i.e., if it feels hard to the skin, and if you see the soap swimming on the top, imperfectly dissolved, add enough borax to soften the water. Be sure to use pure borax; some standard brand; not so-called "Borax washing powder," which may do the baby's skin serious harm.

Except where the outdoor drying-place is a dusty roof or back yard, where the clothes show an actual deposit of dirt when they are brought in, clothes dried outdoors will be whiter and smell sweeter than those dried inside.

CHAPTER X

SICKNESS

It is very much better for the sick baby to be left in bed than to be held and rocked. The less he is disturbed, the better it will be for him and the more he will sleep. This applies also to a fussy baby who may be just beginning to be sick. The sick-room is not the place for the family to congregate and talk matters over. Do not allow visitors to see him. Other children should be entirely excluded from the room, whether contagion is suspected or not.

Have a thermometer in the room near the bed and keep the temperature at the point the doctor directs. A temperature of 80° F. does harm and not good. In winter an open window and an open fire are the best measures of ventilation. The bed may be protected by a screen.

The doctor will want to know these facts when he makes his visits — it will help if there is a written record: —

The baby's temperature — if the mother has a thermometer and knows how to use it.

The number and character of the movements. Save them.

The amount of urine which is passed. Save a specimen. An easy method of getting a specimen is to put the baby on a warm enamel basin or saucer and place a warm cloth on the lower abdomen. Usually he will pass urine in a short time.

The food taken — kind and amount.

The amount of water taken.

The number of hours of sleep.

The presence or absence of restlessness, crying, pain, coughing, rapid breathing or vomiting; also the baby's color and general appearance.

When the doctor gives orders they should be written down and shown to him to be sure they are correct. It is important to carry out directions in detail, and details are hard to remember, especially when one's mind is disturbed by anxiety.

When the baby begins to get well, do not hurry to return to full diet and activity. A little longer time in convalescence usually pays in the end.

Temperature. The baby's temperature normally ranges from 98 to 99½. The temperature of a baby is much more variable than that of an adult, and a temperature higher than 99½ is not unusual even in babies who are not sick. If the temperature is higher than 101, the doctor should be notified. The temperature should always be taken by the rectum. The thermom-

eter should be lubricated with vaseline or some other oil and inserted at least one inch. In most instances it is just as well not to take the temperature frequently because it may cause unnecessary worry. If a mother can take the temperature and not be too much disturbed if it is high, the information gained may be of assistance in the early detection of illness.

Croup. Croup is a spasmodic condition of the larynx which comes on very suddenly, usually during the night. The baby awakens with a harsh, rasping cough, and has difficulty in breathing. Croup is not a dangerous condition, and responds to treatment very quickly. If the attack is severe, the baby should be made to vomit, which will cause an immediate relaxation of the spasm, and the attack will be over. If the attack is only a mild one, it is unnecessary to produce vomiting if the relaxation can be accomplished without it. Vomiting is most easily produced by the administration of a teaspoonful of syrup of ipecac. In a milder attack the same drug should be used in smaller doses. An infant of six months may be given five drops every fifteen minutes until relief is obtained. The inhalation of steam also helps to shorten an attack of croup. A croup kettle is the easiest utensil for producing the steam; and with a baby who has had attacks of croup, it is a wise precaution to have a croup kettle in the house. Any dish filled with boiling

water and placed on an electric stove or over a flame will serve the purpose. A tent over the bed made with a sheet serves to concentrate the moisture and is helpful. If the steam is saturated with compound of tincture of benzoin, one teaspoonful to one pint of water, it is more efficacious than steam alone. The external application of heat in the form of a hot mustard plaster or warm compresses over the chest is sometimes of value. Croup is very apt to recur for several nights. This may be prevented in many instances by giving ipecac in small doses, at six months five drops, at 4, 5, and 6 o'clock in the afternoon. If the croupy cough persists during the day it is because there is a true laryngitis. This may be due to diphtheria. A doctor should be notified.

Convulsions. A convulsion in an infant may be the symptom of any acute illness, or of indigestion, and usually does not indicate brain disease. Convulsions should be treated by giving an injection of warm soapsuds to produce a movement, and by placing the baby in a bathtub of warm water to which mustard has been added in the proportion of half a cupful of mustard to a bathtub half full of water. The temperature of the water should be not over 105° F. Never put a baby in a tub of hot water until the water has been tested with a thermometer, or until some adult has placed her arm in the water up to the elbow. Babies are burned frequently

by being placed in hot water, and the burns are sometimes so severe as to result in death. A doctor should always be notified if a baby has a convulsion.

Colds and contagious diseases. Almost all contagious diseases are contagious in the early stage of the disease. This is particularly true of any disease which starts with a sore throat or a running nose; therefore any child with the appearance of a cold should be kept away from other children. Acute colds are just as contagious as more serious diseases, and the isolation from them should be as complete if spreading is to be prevented. This isolation must be applied to any member of the household who is taken ill.

Skin eruptions. The mother should not attempt to make a diagnosis between the various so-called children's diseases, — scarlet fever, measles, German measles, and chicken pox. A child who has any of these diseases is sick enough to be seen by a doctor and the diagnosis should be left to him.

Whooping-cough. Whooping-cough begins like any other cough. The whoop does not develop usually until the cough has been present for several days, or sometimes even longer. In the presence of an epidemic of whooping-cough, every child with a cough should be

considered suspicious, and should be kept away from other children until the diagnosis is definitely established. Whooping-cough is a serious disease, especially in young infants, and every means should be employed to prevent its contraction.

Diarrhœa. Frequent movements may be the beginning of a severe diarrhœa and should always be called to the attention of the physician. If it is impossible to communicate with the doctor at once, it is always safe with a small baby, unless the movements contain blood, to give a teaspoonful of castor oil and dilute the formula half and half with boiled water until you have been instructed more in detail as to what ought to be done. If the diarrhœa is severe, give no food at all, but give boiled water in as large amounts as the baby would have of food. In older children give only water and gruel or dry toast. It is unwise for the mother to try to treat diarrhœa without the advice of a physician.

Constipation. Occasional skipping of the regular movement is not constipation. If the baby has not had a movement for forty-eight hours, he should be given a small enema of two to three ounces of warm soapsuds or a suppository of soap or glycerine. There is no particular choice between an enema and a suppository except that the enema usually is more effective. Milk of mag-

nesia, one dessertspoonful at six months, should then be given to assure a movement the next day. Enemas and suppositories should not be given over long periods of time; irritation of the rectum may result.

If there is constipation and prolonged straining, the lower portion of the rectum may be forced out and there may be bleeding. If there are not regular movements the advice of a physician should be sought.

Constipation is due to a variety of causes, but can usually be overcome by changes in diet without the use of drugs. In general the following are the most important things to bear in mind: First, there should be a regular time for bowel movements, and this time should be kept as rigidly as the other routine matters of a baby's life. This time should not be crowded because of inconvenience to the family. Second, the child should have plenty of liquids in the twenty-four hours. All babies should be taught to drink water, boiled until the baby is a year old, and longer if there is any doubt at all about the purity of the water supply. An infant by the first few months should be taking one and one-half ounces to two ounces of water in the twenty-four hours, and after that increasing to six to eight ounces at one year of age. This water can be given most easily in the middle of the morning and in the middle of the afternoon. Third, diet. Orange juice and prune juice will help very much in making a soft movement. Details about the use of these

will be found in chapter VI. Frequently too little fat or too much fat causes constipation. This should be investigated by the physician. In older infants coarse cereals should be used and coarse bread given in place of bread made from finely ground flour. Vegetables, especially those with a good deal of fiber, should be given to infants old enough to take them. The object of these measures is to add bulk to the movement. Fourth, massage. Sometimes benefit is obtained by rubbing the abdomen just before the time for a movement. One should begin in the lower right-hand portion and rub upward, then to the left, and then down.

Earache. Earache may lead to serious illness, so the doctor should be notified if it occurs. Temporary relief for the pain may be obtained by the application of heat — a few drops of warm olive oil put into the ear and a hot-water bottle outside.

Eczema. Eczema in infants is usually associated in some way with a disturbance of digestion, but sometimes is due to a local irritation. The relationship between the skin disease and the digestive trouble is too intricate for the mother to try to treat herself; a doctor should be asked to see the baby.

Worms. Worms are very rare in infants and when

present they usually cause no symptoms. The diagnosis of worms should not be made unless they can be seen in the movements. They are small white threads which can be detected by their motion and are seen best in a movement which has just been passed. Other kinds of worms do not occur in small infants.

If worms are present, the following treatment is usually successful in removing them. Wash out the lower bowel thoroughly with a solution of borax made in the strength of one tablespoonful of borax to one half pint of water. Then inject into the bowel one half pint of an infusion of quassia, made by adding one ounce of quassia chips to eight ounces of water. This treatment should be repeated daily for several days, then every other day until the worms have disappeared. It is necessary to wash the parts very carefully in order to prevent reinfection. In female infants the worms are likely to be found between the folds of the vagina.

Swallowing foreign bodies. As infants begin to creep and walk about, they frequently take things from the floor and swallow them. Usually the article is passed through the intestine without causing any damage. A child should be watched carefully after a foreign body has been swallowed, to see that no symptoms develop, but in the absence of symptoms no treatment is necessary. The movements should be examined for whatever was swallowed.

If a pill or possible poison has been swallowed, the baby should be made to vomit by giving a teaspoonful of ipecac, and then be given warm water to be vomited also. This will wash out the stomach. The doctor should be called at once.

Rickets. Rickets is due to a disturbance of the mineral substances in the body so that the bones are not formed in the proper manner. It can be prevented and cured by sunlight and by cod liver oil.

Almost all babies when very young appear to have bowlegs. This need not cause any alarm. When a baby begins to walk, if his legs are very bowed, he should be taken to the doctor, who will decide what should be done.

Circumcision. Boy babies do not need to be circumcised as a routine procedure. Most babies do not need to be circumcised at all, if the foreskin is retracted early and the adhesions broken up. Be sure that the foreskin can be fully pulled back. Get the doctor to show you how to do this. The question as to the necessity of circumcision should be decided by a physician.

Vaccination. All babies should be vaccinated before they are a year old; that is before they are to come in contact with people, or before they are running around.

A disease of the skin is the only reason for postponing vaccination. Vaccination does not result in any injury unless the wound becomes dirty. Girls should not be vaccinated on the arm because the mark left by the vaccination will last through life.

Diphtheria. All babies over six months of age should be given toxin-antitoxin to protect them against diphtheria.

PART II

SUGGESTIONS TO MOTHERS

CHAPTER XI

THE NEW MOTHER

For a few weeks after her baby's birth, the well-cared-for woman obeys orders, and has no duties except the big duty of being serene.

Childbirth itself, despite its pain, brings with it a sort of exhilaration that makes many women heroic at the time, and often for twenty-four hours afterward. But on the second day or so, the fatigue of nausea from ether, continuing after-pains, suffering with the breasts and nipples, often produce a reaction of great sensitiveness. Of course the baby has lost weight, the flow of the milk may not yet be established, the trained nurse is tired, relatives may not like the baby's name, visitors are trying to get in or have their messages understood, and over one item or another on this list of insignificant facts the young mother often goes to pieces. Here is a place for her to show self-control. She has the baby, and if she is going to be a good mother, she ought to begin at once, by pulling herself together and keeping calm. She is probably pretty weak, and cannot afford to talk long, even to her husband. She needs a period of mental twilight to match her partly curtained room before she is ready to assume her ordinary habits of

thought. This period may last only a few days with some women: for three weeks with others. If the mother expects it and sinks quietly into it, instead of being strained, puzzled, and tearful, the baby's milk supply will be much better.

Visitors are exciting and pleasant; but they should be allowed only on the doctor's orders, and then only for sharply stipulated periods, which the trained nurse must oversee. Nothing is sillier than to have what ought to be a lovely resting time, in which the mother and child make friends and grow to know each other, made a season of worry and fatigue. It is hard for a normally sociable young woman, proud of her achievement in bearing a child, to refuse to see her friends. The doctor, trained nurse, and husband should conspire for her, remembering that the frequent visits of her baby to be nursed are almost excitement enough. It often tires the mother as much to deny her own family and intimates, as to see them; and if the doctor and nurse take the responsibility for her, she will feel guiltless and relieved.

Getting up is usually attended with some slight upset of the nursing; but if it is managed in a reasonable way, ought not to affect mother or child for long. When the mother is at last out of bed, she must arrange all her life with reference to her new duties.

The women who can be good nursing mothers and

also play tennis and dine out are so few that no book of rules need apply to them. Most women have to give up all claims except those of the immediate household; and they must take even these as lightly as possible.

Country life, or an equally simplified city routine, is the proper condition for a nursing mother. She should get all the sleep she can, rest for an hour or more in the daytime, out of hearing of the baby (if there is a proper person to leave in charge), exercise outdoors all she can without immoderate fatigue, and cut out all evening engagements. If she takes full charge of the baby, the ideal arrangement whenever possible, she will find it easier to be a good nursing mother than if she runs off to lunches and meetings of committees and has to tear herself regretfully away, getting home late and worried.

Be absolutely on time with the nursings. "This is the first way to tell the truth to your baby," a wise mother once said; and nothing is more selfish than to keep your hungry baby waiting, for your own pleasure or your own stupidity. Moreover, the regularity is as good for you as for the baby: the perfect orderliness of a healthy baby's well-appointed day is wonderfully restful and pleasant when you once give yourself intelligently over to it. Mothers who really don't think breast-feeding worth the trouble are not fit to have children.

When the trained nurse goes, the young mother is

sure to find herself perplexed, if not terrified. It is well for her, for a week beforehand, to assume almost all of her duties under the direction of the nurse, and thus save the extremes of over-responsibility. Most mothers pick up their own ways very soon; and this break is worth a mention only because the mother's first fatigue and anxiety often upset the nursing. Accept this as a humorous comment on your own unsteady nerves, and do not plan to wean at once. Call in the doctor if necessary, but remember that thousands of other mothers have had the same experience, and do not lose hope.

Ask your trained nurse, before she goes, to write down all her special directions about the baby. However good the general advice of a baby-book may be, the routine of a really good trained nurse, worked out in your own home, with your own utensils and your very own baby, is still invaluable. You may modify or change this as time goes on; but it will be better for the baby, and easier for you, to copy the nurse's ways exactly when she is first gone. The trained nurse should teach the mother how to modify the milk before she goes, and leave her equipped with all the necessary utensils — arranged in their places.

Where the mother is not strong, and where there is a good nursemaid, it would be well for the mother to give up the night care of the baby. The nursemaid should have directions to bring the baby only at the reg-

ular hours, 10 P.M., 2 and 6 A.M., and if the baby is awake between these times to give him hot water, but not to disturb the mother. A few bad nights a week may upset the mother's milk more than all the day care of the baby. "Old-fashioned mothers" are supposed to have borne such strains and nursed their babies eighteen months beside; but do not be too jealous of them. The death-rate of mother and baby was probably high. If you can, do everything for the baby: if you can't do everything, remember that your milk is the baby's proper possession, and that you must make every sacrifice of your own wishes that may help you to nurse the baby successfully.

What shall I do when the baby cries? This is surely the question that mothers oftenest ask and to which they least often get a satisfactory answer. There is no one single answer. The problem may be physical, psychological, or moral, or a mixture of the three. Obscure as may be the physical cause for a baby's crying, it is perhaps the least difficult to cope with. Is the baby wet, or soiled? Is something in his bed uncomfortable? Does the light strike into his eyes? Is he afraid of the dark? Has some new noise developed in the room — the banging of a rocking-chair, or the flapping of a window shade? Is he too hot? or too cold? And, finally, is he hungry?

Hunger is probably very seldom the cause for a

healthy baby's crying. When the question of whether a baby's feeding is sufficient is being discussed, his crying much during the day or night must be taken into account. But unless there is grave reason to suppose that the baby's diet is wrong, do not let yourself wonder, each time he cries, whether your baby is hungry. Even if he is, the feeding-hour should not be advanced, nor should the baby be taken up. Rocking and petting a hungry baby will never cure his appetite.

When the baby cries, assure yourself as well as you can that there are no physical causes for his distress. Is the cause psychological? Has the baby been overtired by too much play, too much adult attention, too many toys? If so, nothing but rest will cure him. "But it does not rest a baby to leave him screaming all alone," says the worried mother. No. But if he is so tired that he screams, there is probably no immediate rest coming to him anyway. The mother's main duty, in such a case, is to revise her programme and take care that the same sort of fatigue does not recur.

Is the baby crying merely because he wants society? Often a baby who is screaming loudly stops when he hears a voice or footsteps. Although this does not prove that no material trouble exists, still, if the baby, after being changed and turned over, begins to cry again only when he is deserted, the chances are that he simply wants company. Of course, this sort of diagnosis is

always guesswork, and any mother who has abandoned her tearful baby on the theory that he is fussy, and who afterwards discovers a physical cause, blames herself, and perhaps resolves to be less stern in future. But it is better to leave the baby once or twice to cry alone for a real cause than it is to pick him up continually in the hope of finding out what is the matter.

Babies are human beings, after all, and no one human being ever completely understands another all the time. The wisest mothers and nurses will tell you that it is impossible always to know why a child cries or complains. The mother's duty is to see that her baby is well dressed, well fed, and comfortable, that his day is reasonably ordered; and then if he cries, she had better leave him for the most part to his own devices.

Crying at night is a different matter. If the baby is well and gaining well, and has had proper care from the first, and if he still cries at night pretty steadily, there may be some physical cause that escapes you, and a doctor had better be consulted. But even crying at night, distressing as it is, cannot always be attributed to a single clear cause; and the rule to let him cry it out, even if the crying-it-out lasts for hours, should be applied to a baby whom the doctor pronounces sound.

As the baby grows older, and begins to walk and run, his crying is often the result of obvious accidents. For

any serious disaster the mother will, of course, comfort her baby. But it is well for even little children to be taught that the common accidents of life are not profound affairs, and should be dismissed with as few tears as possible.

If the baby is very fussy and has no other particular symptoms, put him to bed for a day. Perhaps he is going to be ill, perhaps not. In either case the treatment will do no harm, and the rest, with all chances of exposure and excitement automatically cut off, may avert some slight upset that is brewing.

Do not make this seclusion a penance. If the baby is old enough to play with toys, set him in his crib, in a sunny, open window, warmly wrapped if it is winter, or in a cool, shady place if the weather is hot, with whatever toy he wishes. If the baby is so young that he will throw the toys on the floor, tie them securely within his reach. Then, leave him. Give strict orders to all the family that the baby is not to be disturbed, and go to him yourself only when it is absolutely necessary. This treatment will be especially useful during the second year, when the baby's mental development is very rapid. As he escapes from the retirement of the first twelvemonth, spent mainly in his basket or bed, and begins to creep, to walk, to see more people and places, and to handle more things, he often gets tired beyond the point where he can sleep it off at the next nap.

If real illness comes later, the baby who is used to being alone in bed will take his convalescence well, and the habit of being happy in solitude is at any time a true moral gain.

CHAPTER XII

HOW TO TRAVEL WITH A BABY

In the first place, don't!

If the whole family has to move, or if the baby is being moved from the city for the summer, well and good. But to move the baby for the mother's convenience, or for any other reason that does not put the baby first, is risky and usually wrong. The change of food, the change of habits, the chances of contagion in traveling, all these are real dangers. Don't run them unless you have to.

But if the baby must be moved, move him well. Make all your preparations carefully and in a leisurely way. The baby is often, on the morning of departure, as tired by all the bustle of a disarranged household as by the trip itself.

What will the baby need at the other end of the journey? If there is a sleeping-basket that can be spared, send it to your destination several days ahead, packed with other necessaries. The best sleeping-basket for this purpose is described on page 119. This should contain: —

Sheets.

Blankets.

Diapers (a good supply, so that washing will not have to be thought of in the first busy twenty-four hours).

A baby chamber or toilet chair.

A box of bath things, — soap, towels, wash-cloths.

A toilet box, — lanoline, powder, pins, etc.

Mosquito netting (in summer).

Nightgowns, dresses, etc.

As there is always some chance that express will be delivered late, it is best, when possible, to have a special traveling-bag, not to be opened on the journey, containing a supply of fresh things for the first night. This should contain approximately: —

Six diapers.

Shirt.

Band.

Nightgown and sleeping-bag or blanket.

Rubber sheet.

Powder.

Lanoline.

Soap.

Wash-cloths.

Safety pins.

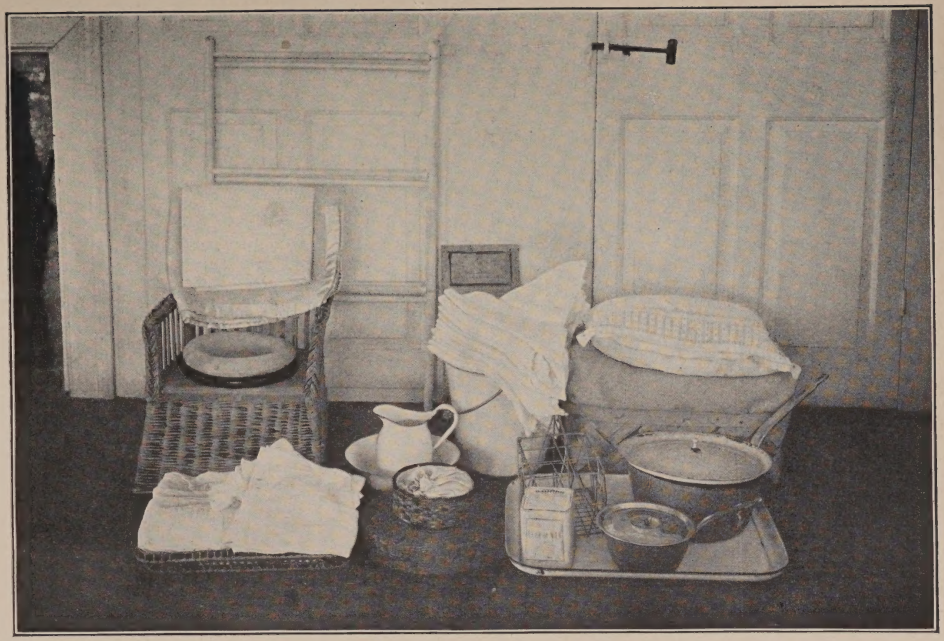
Pin the list in the top of your bag, and be sure you have all the things. No mother who has opened such a bag and taken out the clean, complete baby outfit, will go back to the confusion and despair of a haphazard hunt for each article through half a dozen bags and boxes.

The food should be planned ahead, too. If there is milk to order, order it long enough ahead to receive a written statement that a quart of fresh certified milk will be delivered on the day of your arrival. It is better to travel with a supply sufficient for at least twelve hours after arrival. But as the ice chest may be lost or the bottles broken, it is better to have a known amount of certified milk awaiting you on the ice. (*Question.* Who will put it on the ice for you?)

Milk for a journey of more than one day is a serious problem. If you can, buy the milk modified, put up in separate feeding-bottles and sterilized, before you start. Such milk, properly iced, should be sweet at the end of ten days; but it is safer to carry with you some good brand of condensed milk. This is better, well prepared, than boiled "steamer milk," or "station milk," except on those steamers where cows are carried. The daily milk from these cows, boiled for five minutes, may be used if the home-packed milk fails you.

When crossing the continent, milk can be ordered from special modified milk laboratories, made according to the baby's own formula, and delivered to the train in the principal large cities.

Ice can usually be supplied on steamers and parlor cars. It can also be bought in station restaurants. Keep the milk doubly well iced on a long journey; the dangers of a mistake in icing are far more serious when the milk



PARTIAL CONTENTS OF PACKED BASKET

is not so fresh and when a week's supply is at stake. A thermometer kept upside down in the ice chest, so that you will know the temperature of the top of milk bottles, always warmer than the bottom, is a necessity.

Do not travel with a painted tin ice chest. These are always wasteful of ice. Buy a wooden ice box, zinc-lined throughout. Retail shippers of milk usually sell these.

Besides the ice chest, which should include a bottle of boiled water and cereal or cereal water for the first day's use, there should be a "food box" or bag, containing all the accessories for the baby's meals. There should also be a toilet bag, with clothes and accessories for use on the train, and, for a long trip with an older baby, either a small chamber or a wicker toilet chair.

Plan the baby's clothes a day before the journey, remembering that all sorts of climate and temperature may be encountered in one day of American travel, but that one or two large warm blankets and one thin soft one — all easily washable at the end of the trip — are more practical than six of the baby's best silk-lined show coverings. A convenience, not a necessity, is a dark cloth or silk bag that can be hung on the mother's arm, and into which the numerous jackets, blankets, or caps may be put when not in use. This bag saves shutting and opening the more elaborate bags, and can be folded and laid in one of the other bags if not needed.

A rubber diaper bag that closes neatly may be kept in the bottom of this bag.

In planning underclothes and dress for the journey, remember that railway cars are usually hot, though drafty. Most babies seen traveling are in a continual perspiration: sufficient excuse for all their fussiness. Except in the severest weather, dress the child lightly, as if for a hot drawing-room, and carry enough caps, sweaters, leggings, and blankets to protect him against any particular draft or exposure.

Keep the baby's routine as near the normal as possible on the day before, and the morning of departure. Do not pack in his room: leave him, if possible, in his own play pen, or on his own bed, with the usual toy.

Be sure to allow plenty of time for the baby to have his regular movement on the morning of the trip. Many children who use a toilet chair will not have a movement on a chamber. For a family of children that moves every year, it is well worth while to have two toilet chairs, one to send ahead, and one to have always at home. If your child has never used a chamber, be sure to have an extra toilet chair, and do not upset him on an overexciting day by trying to teach him to use a chamber for the first time. As a general rule, every child over a year old ought to be trained to use a chamber, as there are times on automobile trips, on trains, and on afternoon calls, when the home chair is not available.

Unless the weather is unusually cold or the start is a very early one, it is better for a healthy baby to have his bath as usual, on the day of the journey. If the trip is long enough, try to have the feeding-hours on time. If the journey is a fairly short one, it is often best to feed the baby as soon as he is settled on the train or motor, despite the inconvenience. It may be better to give a cereal feeding at home, and only the bottle-nursing or cup of milk on the train. The chances of the morning nap are best if baby's stomach is full. Moreover, if a feeding is given just before a trip to the station and the excitement of being settled in the train, the baby may lose part of his meal.

A bottle baby's bottle may be warmed on the train without much trouble by setting it in a quart dipper and pouring a thermos bottle full of hot water in around it, care, of course, being taken not to crack the iced milk bottle. If cereal has to be given on the train, carry it in a tall jelly glass and warm in the same way: this will not really heat iced cereal, but will take off the chill; and that is usually all that is needed.

The nipples may be carried in a small wide-mouthed bottle with a cork. Take *two* nipples. If one breaks on the train, you cannot hunt in the medicine closet for another. Each nipple can be washed after using, in the hot water from the bottle-warming receptacle.

On a long journey it will often be necessary to use an

alcohol lamp to heat the baby's food. Boxes of "solid alcohol" are better than a lamp full of fluid alcohol. A metal tray (very light aluminum trays can be bought) should be placed under any lamp used on a train.

When the baby has had his first feeding on the train, settle him to sleep, if it is the proper hour. If there is a vacant car seat long enough for him to stretch out on, cover it with one of the clean diapers, see that there are no immediate drafts and that the light does not shine in his eyes, and tuck him up with a little shawl. Some babies, puzzled by the strangeness of travel, will sleep only in the protecting comfort of the mother's or nurse's lap. If the child begins to cry when laid down on the car seat, pick him up and cuddle him to sleep.

A baby can sometimes be carried in a clothes-basket small enough to go into carriage, train, or motor, from one end of the journey to the other.

If you are traveling for several days, institute as regular a routine as possible and stick to it. Do not, even on a long trip, hand the baby round to every one who wants him. Carry along a few favorite, fairly cleanable toys, and do not poke new sights and shapes at a nervous, excited baby every few seconds in the hope of making him less nervous.

At the end of your journey, friends and family may be glad to see you, but after the first greeting, they should leave the baby alone and let you settle him for

his nap, play, or bedtime. Unless the baby is too tired, a warm sponge bath and complete change of clothes is a good first move. A little albolene dropped up the nose and a washing of the eyes with boric acid solution can do no harm and may prevent local irritation from the dust of travel.

Even if the first night is a very good one, and the baby seems fresh next day, give him several unusually quiet days in which to make up for all his fatigue and to adjust himself to the new surroundings. A "perky" baby on the first day, when the excitement of novelty stimulates him, and a very cross or ailing child on the second, third, or even fourth day, is not an unusual history, and the mother never knows how to account for it. Consider the journey as something which must be followed by a definite period of convalescence, and at the end of a week you will probably have a healthy, contented baby.

Traveling with an infant or with a large family of children, dolls, dogs, and squirrels is often a nervous business. Well planned, and successfully carried out, it can be a very lively form of sport.

CHAPTER XIII

A TYPICAL DAY

Time	Event and Apparatus
5 A.M.	Giving water

Nurse the baby or give him his bottle not before 5 A.M., except when he is being weaned from the 2 A.M. feeding. If he wakes and shouts for it earlier than 5, try boiled water. This is not much fun for the mother, as it seldom satisfies the baby at once; but a steady course of boiled water instead of the bottle will finally convince him that there is nothing better to hope for at an irregular morning hour. As soon as the feeding routine is once well established, a well-fed baby ought to sleep till 6 or later. Even if the baby does not sleep after 5, it is better for the mother to be definite, rather than to spend an early morning hour wondering whether the cries are loud enough to justify her in advancing the meal.

Drinking-water for the baby may be of any temperature between extreme heat or cold. Some babies drink out of a cup very early; others do better with a spoon or bottle feeding. At 5 A.M. the bottle is best if the baby will take it, for he does not have to be taken up or disturbed to get his drink. Don't accept the notion that your baby does not like water. Try it at various temperatures and in various ways, cup, spoon, or bottle, and keep at it till the baby has a fixed water habit.

	Event and Apparatus	Time
The water should be boiled once a day in a covered tea-kettle, and kept with absorbent cotton in the spout. It may also be kept in a sterile nursing-bottle stoppered with absorbent cotton. This bottle may easily be heated by placing it in a saucepan of hot water. This bottle should be boiled daily with the milk bottles. Or a thermos bottle, kept for the baby only, may be filled once a day with boiling water and tightly corked. The thermos bottle is a luxury, but a great time-saver, as enough hot, sterile water can be kept on hand for a baby's whole daily supply. A thermos bottle needs care. Do not put boiling water suddenly into a cold thermos bottle, or it will crack. Boil the cork once or twice a week.	Heating water Tea-kettle Bottle of sterile water Saucepan Thermos bottle	5 A.M.
The water nipple, like a milk nipple, needs daily washing and boiling, and should be kept in a covered glass with boiled water.	Nipple	
If a cup and spoon are used, they should be boiled daily, and kept in a clean place, away from the dust.	Cup and spoon	
Nurse or feed the baby at 6 A.M. if he is awake. Usually it is better to wake him anyway, in order that the feedings may all come at the appointed time. The decision as to the wisdom of waking him must rest, however, with the individual mother, who may often gain so much by an extra half-hour of sleep that it would be foolish for her to disturb herself and the baby by an alarm-clock feeding. Most	Nursing or bottle	6 A.M.

Time	Event and Apparatus	
		babies will settle this point by being awake.
3 A.M.	Nursing or bottle	If there is a bottle, instead of a nursing at this hour, everything should be planned to make the heating of the bottle easy for
	Ice chest	the mother. The ice chest should be near, if possible. A separate ice chest for the baby is very desirable, where later the baby's cereal, butter, and other foods should also be kept. The ice should always be rinsed before it is put in; and the ice chest should be thoroughly washed out with boiling water once a week, oftener if any milk has been spilled meantime. Do not buy a fancy tin ice chest, made to sell to mothers, but very wasteful of ice, and hard to keep cool. Get a small regulation ice chest, which will last for a generation of nursery use. Be sure to use an ice-chest
	Ice-chest thermometer	THERMOMETER: lay it on the top shelf, which will be the warmest, and see that that is never above 50°. The mother herself should be responsible for having the ice chest clean and cold.
	Nipple	The nipple, which should be thoroughly washed in clean cold water after each nursing and boiled daily, should be kept
	Covered glass	in a covered glass containing sterile water. The best nipple to use is one which can easily be turned inside out for washing. Buy nipples without a hole; and puncture
	Needle	the new nipple with the tip of a number ten or twelve needle heated red-hot in the flame of a candle. The new nipple so prepared, should, of course, be scrubbed and boiled before using. A proper hole will

Event and Apparatus	Time
Nursing or bottle	6 A.M.

be large enough to let the milk drop out in generous drops: it should not flow out in a stream, however small. Do not continue using a nipple after it gets soft and collapses easily in the baby's mouth.

Where there is not continuous hot water, a thermos bottle of hot water saved from 10 P.M. is a great help in heating the 6 A.M. bottle. If convenient, use a gas or electric cooking-stove or bottle-heater. Where gas and electricity are not available, alcohol gas stoves are very convenient: a two-burner stove will be useful for preparing the milk, boiling bottles, making barley water, etc. This stove should stand out of the room, as the fumes are unpleasant and there is always chance of an accident. It should be placed on a metal tray, well away from all draperies. Use denatured alcohol, not wood alcohol or any of its derivatives, such as "Columbia spirits," whose vapor — in a confined space — may cause blindness or death. Buy your denatured alcohol at a paint or hardware store, where it sells at from fifty-three to sixty-five cents a gallon — not at a drug store, where it may cost seventy-five cents a quart.

Thermos bottle

Heating apparatus

Denatured alcohol

Solid alcohol, bought in ten-cent boxes, is very convenient, and safer than fluid alcohol.

Solid alcohol

After adjusting the nipple, shake the bottle thoroughly, to mix up the cream, which forms in a layer on top of the milk after the bottle has stood even a few hours. Warm the bottle by placing it in

Time	Event and Apparatus	
6 A.M.	Nursing or bottle	a quart measure or saucepan of hot, not boiling, water. (Water that is too hot will crack the bottle.) Choose a heating-utensil in which the hot water will come as high as does the milk in the bottle. In a shallow vessel, where only the lower part of the bottle is covered by the water, the milk heats unevenly and slowly.
	Heating utensil	
	Milk, testing the temperature	Milk of the right temperature, dropping from the nipple on to the wrist, should feel warm, never hot or cold. The anxious new mother may wish to test her first bottle-feeding with a sterile pasteurizing thermometer: 98°, or blood heat, is the right temperature. A woolen bottle cover should always be used to keep the milk warm during the feeding.
	Bottle cover	
	Boric acid solution	If the baby is nursed, the mother should wash her nipple with a two per cent boric acid solution, and the baby should nurse from ten to twenty-five minutes on one breast.
		When the bottle has been given, rinse out the bottle thoroughly with cold water. The regular bottle washing will be an easy matter if each bottle is rinsed perfectly clear after using.
		When the baby is ready for bed again, hold him upright against your shoulder for a few moments, so that he can expel any gas that may be in his stomach, or any air that he may have swallowed during the feeding. The baby often cries directly after a feeding, because this has not been done.
		After the bottle or nursing, the baby

should be put to bed, with warm feet, even if a hot-water bottle is necessary. A metal bottle which cannot burst is economical. It should always be used with a flannel cover, as the metal does not retain the heat. Be cautious in the use of electric heating-pads for the baby: burnt bedclothes have been known to result. Some babies are more likely to go to sleep at this time if they are not much handled: most will do better if their diapers are changed, their beds freshened, and if they are settled down as if for the night.

If baby is awake before the mother goes to breakfast, this is a good time for the morning drink of water or orange juice, as the doctor directs.

If orange juice is given, it should be prepared by squeezing the juice of a ripe, clean orange through a muslin cloth or a very fine wire strainer. If the strainer does not show a fairly large mass of pulp, it is not fine enough. If the orange juice is not sweet, add a little granulated sugar.

This is a good time for the baby's regular movement, though usually before the bath will be more convenient for the mother, and not too late for the baby. The baby should be held on a rubber air cushion, over a chamber in the mother's lap, with his back braced against her chest. If an air cushion cannot be used, the mother may hold her hands under each hip and thigh, so that the baby's spine need not rest uncomfortably against

Event and Apparatus	Time
Putting baby to bed	6 A.M.
Hot-water bottle	
Flannel cover	
Giving orange juice or water	
Orange	7.30 or 8 A.M.
Very fine strainer	
Sugar	
Movement	8 A.M.
Chamber	
Air cushion	

Time	Event and Apparatus	
8 A.M.	Movement	the chamber. A small soap or glycerine suppository to suggest his duty to the baby may be necessary for some days till the habit is established. Some babies learn at a few weeks' age what is expected of them, and become perfectly regular of their own accord.
	Suppository	
	Toilet chair	As soon as the child is old enough, place him, properly wrapped up, on a toilet chair, tied to a bedpost. Leave him alone and without toys for fifteen minutes or so, till he achieves the proper result.
	Preparations for the bath	At first, most mothers will need at least three quarters of an hour, perhaps an hour, for the baby's morning bath. Allow plenty of time, so that you will not feel hurried. Remember, this bath is not only a sanitary matter, but is one of the baby's chief exercise and recreation periods. Every normal child, that has not been scared, loves his bath. Make sure that your baby loves his; and proceed smoothly with all your preparations for it. Jerky, anxious handling may spoil the whole process, and leave you feeling that the day has begun wrong.
		Prepare all your tools beforehand, and bathe the baby before an open fire if you wish, though an evenly warm bathroom is better than a cold, draughty nursery even though the latter has an open fire. If baby is bathed in the bathroom, take
	Thermometer	your thermometer in there. Have the room in which the bath is given 70° F.
	Tub	(not 85). If a portable tub is used, tin,

rubber, or *papier machè* are all equally good. Have the height of the bathtub right, and you will yourself enjoy the bath more.

The following things should all be ready and in a convenient place before the bath: A clothes rack, holding all the baby's fresh clothes; a knitted band with shoulder straps; a high-necked, long-sleeved shirt, silk and wool or woolen and cotton, with no rough inner seams; day-gown or flannel gertrude and white slip, or, for an older child, petticoat and dress. Also, knitted bath-towel, fine face towel, two wash-cloths of different shape and texture so as to be easily distinguished — one for the face, one for the body.

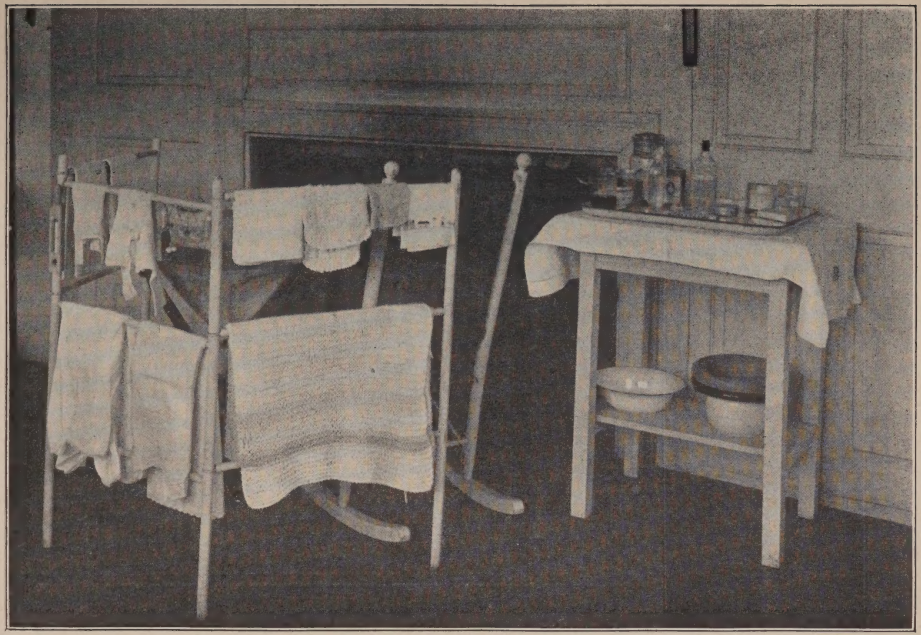
On a special tray (flat white enamel is easy to take care of, and always looks neat) should be powder, lanoline, olive oil, the baby's own castile soap, special ointments, zinc, boric acid, safety pins, bath thermometer, absorbent cotton.

If the baby has not already had boiled water, there should be a cup of boiled water with a silver spoon, or a bottle. Have a newspaper or a paper bag or an agate dish ready for the soiled clothes and soiled waste cotton.

The mother should begin with her sleeves turned back, no breast-pins to scratch the baby, and a rubber or Canton flannel bath-apron. The temperature of the bath water should be about 100° when the baby is undressed. If the bath is not given in the regular tub, a large

Event and Apparatus	Time
Preparations for the bath	8 A.M.
Clothes rack	
Band	
Shirt	
Day-gown	
Gertrude and white slip	
Bath-towel	
Soft towel	
Two wash-cloths	
Tray	
Powder	
Lanoline	
Olive oil	
Soap	
Zinc or boric ointment	
Safety pins	
Bath thermometer	
Cotton	
Boiled water	
Spoon	
Paper bag	
Bath-apron	

Time	Event and Apparatus	
		pitcher or bucket of cold water should stand near by. Proper temperatures for bathing the baby are 98° at one month, 95° at three months, at six months 90°, at twelve months 85° or 90°. Notice always how the baby reacts afterwards. A baby who is bluish or livid after a bath has been in the water too long, or has been in water of the wrong temperature.
8 A.M.	Preparations for the bath Pitcher of cold water	
	Undressing baby Waste cotton	If the baby is soiled when he is undressed, he should be carefully cleaned before he goes into the tub. Waste cotton, dipped in water, or, if the child's skin is sensitive, in olive oil, will serve excellently, and will save washing a dirty washcloth. Use a clean piece each time. Never dip your soiled waste cotton back into the water.
	Weighing baby Scales	If the baby is to be weighed, this is the time to do it. Have your scales in a warm place (standard platform or scoop scales, by the way, not white enamel spring scales). On the platform scales place a strong cardboard box or flat basket, and lay the baby, wrapped in a shawl, in the box; or lay him, with a shawl or diaper, directly onto the scoop. Write down the total weight: then lift the baby out, weigh the box and blanket together, and subtract this from the total. If a basket is used on platform scales, pad it with waste cotton or diapers, so that it weighs exactly one, two, or three pounds. This will be easier to subtract from the total, and errors in weight may be prevented. Once



PREPARATIONS FOR THE BATH

	Event and Apparatus	Time
a week is often enough to weigh a normal baby whose feeding goes on well.		
When the baby is weighed take him on your lap and clean his eyes, ears, and nose.	Bath	8.45 A.M.
Wash the eyes first with sterile water. Use a separate piece of clean cotton or linen rag or fine absorbent cotton, dipped in boiled water, for each eye. Always wash along the lids from the corner of the eye toward the nose. Then throw away the rags.	Washing eyes Absorbent cotton	
The ears should be cleaned by washing the outside with soap and water. Do not poke any sharp instrument into the ears, though your little finger, with a cotton cloth over it, may be gently used to clean the outside of the canal.	Washing ears	
The baby's mouth should not be cleaned: it can do no good to rub the delicate membrane of the gums, and it may do harm.		
The inside of the baby's nose should be left alone, except for such cleaning as can easily be done by a soft wet pledget of cotton.	Washing nose	
If the baby's nails are long, they should be carefully cut, to keep him from scratching himself. A baby all scarred with fingernail scratches means a careless mother or nurse. Don't be afraid you will cut off the baby's delicate little squirming fingers. With reasonable care you won't.	Cutting nails Nail scissors	
Wash the baby's face with clear, soapless water. If the hair is to be washed, it may be thoroughly soaped and then		

Time	Event and Apparatus	
8.45 A.M.	Washing face and hair Face-cloth	rinsed before he goes into the tub. Or the hair may be washed while he is in the tub and his head lies on the mother's left hand and arm. For the first few months, soap his head only two or three times a week.
9 A.M.	Baby in tub	It is best to wash the baby thoroughly before putting him into the tub, for it is impossible to clean all the crannies, even of a moderately plump baby, when under water. The bath is then a rinsing, splashing, and playtime, delightful for both mother and child. After the baby has splashed and kicked on his back, turn him over, with his chest on your left forearm, and let him feel the bottom of the bathtub with his feet. Children of a few weeks will sometimes march up the tub this way, several times, without too great fatigue. The actual bath period should never be more than a few minutes. Fatigue, as well as the wrong temperature of the bath, may account for a pale, listless baby. These things should be watched carefully. A succession of slight mistakes may upset a child; and the doctor, the milk, or the baby may be blamed, when the cause is a lack of intelligent care.
	Drying Bath-towel Soft towel	When the bath is over, the baby should be lifted out of the tub onto a soft bath-towel, — crocheted or knitted cotton is very absorbent and soft, — which should be folded snugly around him. When this blanket comes off, after a few minutes' cuddle, a soft towel should be used to pat

(not scrub or wipe) all the baby's creases. The baby's creases should then be rubbed with lanoline, or oil, or carefully powdered. Powder if used should always be rubbed smoothly into the cracks: the finest powder, if put on indiscriminately, may form into hard pellets in the baby's creases, and may actually cut the skin there.

Many a young mother, excited over the bath, will find that to dress a shrieking, kicking child is an exhausting task. If she realizes that this is a common way for a healthy child to behave, she will not be so anxious; and the nursing mother will accordingly be better.

The band should be slipped on, first, over baby's head or feet (or pinned snugly on the side if the binder is still worn). Then the shirt should be buttoned in front. Be careful, if the shirt has a drawing-string, not to pull it tight enough to rasp the baby's neck. Slip your own fingers inside it, to make sure it does not bind. Next the diapers: two diapers should usually be worn, the first put on snugly, but not tight enough to bind the baby's stomach or legs, the second folded around the thighs, but not brought up between the legs. After feeding, make sure again that the diaper is not tight across the abdomen. Then the gertrude and slip, which can be placed inside each other and put on at the same time, to save handling. Put them on over the baby's feet. If it is winter, the baby should now be wrapped in a soft woolen

Event and Apparatus	Time
Drying Oil Lanoline Powder	9 A.M.
Dressing	
Band Small pins Binder	
Shirt	
Diapers	
Gertrude Slip	
Blankets	

Time	Event and Apparatus	
		blanket. Do not use blankets of very fuzzy wool; the baby may eat the fuzz.
9 A.M.	Dressing Bib or neck cloth	For a young baby, it is now well to put on a bib or fold a clean handkerchief or cloth under the chin, to avoid his soiling his dress with "spilled milk."
	Nursing or bottle	If the baby is nursed, the mother will do best to go into a quiet room, close the door, and lie down. Teach the household to let you rest while the baby takes a meal. You and the child will both enjoy it more. There will be no chance of the baby's being frightened or distracted. And as for you, if the message is not imperative, you are not needed: and if there is a real emergency or problem in the household, this is just the time when you must not know of it. If necessary, pin
	Sign	a paper sign on the door — "Don't disturb baby at his meals," or the equivalent.
9.30 A.M.	Nap	After this nursing, or bottle, comes the best nap of the day. Care should be taken to have all the circumstances right. A healthy baby should sleep outdoors (except when the thermometer is below 20°, or when a temperature of 32° or lower is accompanied by raw, windy, or sunless weather), or in a south bay window with all the windows open. It must be remembered that the city dust is as dangerous as fresh air is valuable, and a sunny back roof, with a surface that is never cleaned, may be a wretched place, though it looks very enticing. You can

judge what is a dirty place for the baby to sleep, by the dirt on the blankets! Choose the cleanest sunny window or balcony, if possible on the third or fourth floor in a city house, and the windiest cool place under trees in hot weather for your baby, and keep that place for him. Don't try one place one week, and then another, unless you've chosen wrong at first.

Baby carriages are too cramped to be proper beds except for tiny babies. A wicker basket, with a hood to keep out sun and wind, is almost indispensable. Fitted with a stout canvas cover that buckles over the top, like the cover for a wicker laundry basket, it makes an excellent baby trunk, and will carry almost all a baby's blankets and belongings, including a baby's toilet chair, pot, baskets, enamel basins, etc. A straw telescope bag, with one half fitted at right angles inside the other, is also a practical and cheap combination basket and trunk.

If a crib is used in a bay-window, the direct drafts on head and neck should be cut off, in windy winter weather, with denim or cotton pads. Heavy blankets or steamer rugs are used for this purpose, but they collect dust and easily shake it out again in a wind. Dark blue or brown denim — green fades more — will shade the eyes, as hood for a basket or curtains for an outdoor bed, and is much cleaner than wool. Even this denim ought to be washed often, especially in the city.

Event and Apparatus	Time
Nap	9.30 A.M.
Basket	
Telescope bag	
Cutting off drafts	
Crib	
Shading the eyes	
Denim curtain or pads	

Time	Event and Apparatus	
9.30 A.M.	Tucking in	In cold weather the baby, in a warm shirt, band, and nightgown, should go into a sleeping-blanket buttoned up to the neck. Every baby should have at least
	Sleeping-bag	two sleeping-blankets, one for nap, and one for cold nights. Take no chances! The young mother who explains baby's cold or stomach upset by saying, "He kicked out last night," is not on her job. With an active older baby, it is well to pin the bottom of the bag to the mattress
	Big blanket pins	with a large safety pin. Horse-blanket pins, four or six inches long, got at any big department store, are useful and much safer than small safety pins, which a strong child tears open and which then lie loose in the bed. All safety pins should be put in very carefully.
	Cold weather	In very cold weather the baby should wear a woolen hood, but not a thick one.
	Hood	Children perspire easily, and there is no better way of chilling a baby than to carry him, after his nap, in a strong wind, with his head wet. It is hard to learn what suits each child, in the way of clothing, at different seasons and at different periods of his health and development, but it is very important. A perspiring baby catches cold easily. A baby without enough covering uses all his vitality in keeping warm, and will not gain. In
	Hot-water bottle, jug, or brick	cold weather a hot-water bottle, or stone jug of hot water (a brick baked in the oven is also excellent and cheap) may be advisable. There is a superstition in many people's minds that a baby who

SLEEPING-BAG

uses a hot-water bottle will lose strength. There is nothing mysterious about a hot-water jug. A baby that is overheated, either by too much clothing or by the abuse of a hot-water bottle, will not do well.

In cold weather there are two points to consider: (1) A baby must have fresh air; (2) he must be warm. If you can keep the baby warm outdoors without piling exhaustingly heavy blankets on him, use no hot-water bottle. Otherwise, use one.

In very windy, cold weather, unless the baby uses a sleeping-bag with hood attached, a tiny knitted blanket tucked in the gap at baby's neck, which the cap, blankets, and sleeping-bag all fail to cover, may act like a stopper, and keep out insinuating winds.

Select a shaded airy place, open to the prevailing wind, for the baby's bed or basket. The regular family piazza is usually too noisy, and not often really open enough to the wind to make an ideal resting-place. It pays to spend much time and ingenuity in choosing a thoroughly good location, for the physical conditions ought to be as nearly perfect as possible before we try to "train" our babies to have long regular naps.

When possible, have some shelter over the basket so that the baby will not have to be moved every time a summer thunderstorm comes up. A big piece of canvas, stretched over a cheap wooden

Event and Apparatus	Time
Cold weather	9.30 A.M.
Soft shawl	
Hot weather	
Rain	

Time	Event and Apparatus	
9.30 A.M.	Rain Tent	frame, well above the level of the basket to allow free motion of air, makes an excellent baby "pavilion." Any inexpensive tent fly can be used. If there is a family carpenter available, a very airy and perfect outdoor bed can be made, by fitting fly screens to a wooden cot frame. This makes a bed like the pretty but expensive baby "carioles," and it has the advantage of being large enough to use until the baby is a big child, though, of course, it is too heavy to be easily moved.
	Mosquito bed	
		Having found a proper place, be sure that the mattress to be used is not too soft. Do not use a pillow: dress the baby as lightly as possible, using a very thin gown for the hottest days.
	Mischief	Some babies will always need to be pinned firmly into a bag, even in hot weather, to prevent their playing with their hands and feet, sucking their thumbs, tearing the sheets, or doing whatever ingenious and mischievous thing they can invent as an excuse for not going to sleep. It is much easier to keep a baby regular about his naps if he has never had long periods of such rioting, and though it seems cruel to pin a baby into even a cambric bag in hot weather, remember that this is the very season when he needs rest and quiet most, and you will be rewarded by a good-tempered baby. In excessively hot weather, leave off all woolen shirts or bands. A cotton or silk band and diaper and the nightgown or cheese-
	Cambric bag	

	Event and Apparatus	Time
cloth bag are plenty when the weather is as hot as 85° or 90°.		
Of course the child must be protected from flies and mosquitoes. Use clean mosquito netting, and see that the mesh is large enough to admit air, and small enough to keep out the mosquitoes. Blue netting, in a glaring place, is good. Very pretty net squares, edged with ribbon, are among the fashionable presents to young mothers which are quite useless; the net is often so fine that the baby could breathe as well in an ordinary shut-up room.	Flies Mosquito netting	9.30 A.M.
If there is milk to be mixed later, the bottles should now be scrubbed with a bottle brush, and hot Ivory soapsuds. Rinse in hot, clear water — cold may solidify the soap on the bottles, making them look cloudy after boiling. Boil either in a deep copper sterilizing-kettle with a bottle rack inside (expensive but durable), or in a large agate kettle. Put in all the utensils to be sterilized. When buying a kettle in which to boil the bottles, choose one that will be large enough for six twelve-ounce bottles; otherwise the first, less roomy pan will have to be replaced when the baby is eight months old.	Sterilizing utensils Bottle brush Ivory soap Sterilizing kettle Six bottles	9.45 A.M.
The bottles should boil steadily for five minutes. As soon as they have stopped boiling, set the kettle, with the lid on, in some place where the bottles will cool somewhat before they must be handled. If rubber stoppers are used for the bottles (preferable to sterile cotton because there	Rubber stoppers	

Time	Event and Apparatus	
9.45 A.M.	Sterilizing utensils Two nipples	is no danger of getting the nipple plugged up with tiny wisps of the stoppering cotton), they should be boiled with the bottles. There should always be at least two nipples with the proper sized hole, clean and ready for use; if there is only one available, and that tears just as the mother is putting it on the bottle, and another nipple has then to be hunted up and washed while the disappointed baby howls in rage and disappointment, this rule will be understood. The nipples should be washed in hot soapsuds, scrubbed inside and out with the bottle brush, well rinsed, and boiled with the bottles.
10 A.M.	Preparing barley water Barley	If barley water and sterile water are to be used in the milk mixture, prepare them now. For barley, or oatmeal water, use Robinson's patent barley or Brooks's baby barley, or groats (oatmeal flour). This can be purchased in small tins, either from the grocer or the druggist. Only cold cereal mixtures should be used in preparing modified milk; hot or lukewarm additions to the carefully iced milk make a bad combination.
10.30 A.M.	Cleaning up	The mother may now pick up the bath utensils, dust and clean the nursery, and wash the baby's clothes.
	Washing diapers	Soiled diapers should be washed separately. They should not be washed until they are scraped free from all the actual stool, and have only stains left. They should be soaked or washed in an enamel diaper pail before putting in the washtub, and should then be scrubbed in very hot

Event and Apparatus	Time
Washing diapers Washboard Ivory soap	10.30 A.M.
Washing flannels	
Drying baby's wash	
Modifying milk	11 A.M.
Enamel tray or oilcloth cover for table Formula	

water, with Ivory soapsuds. All the diapers should be washed in one or two very hot, soapy waters, and then very thoroughly rinsed until the last rinsing water is perfectly clear from soap. Doctors are often called in for skin "affections," bleeding hips and buttocks, when there is nothing wrong with the food or the baby, and the laundry methods alone are to blame.

The flannels should be all washed by soft sousing — no scrubbing — in lukewarm (never hot) water, with Ivory soapsuds. Apply no soap directly to the material. The knitted flannels should be wrung out only by soft squeezing in the hands, or by very careful use of the wringer. Pulling, twisting, and stretching out knitted woolens destroys their soft texture, and soon works them out of shape.

The best place to dry baby's wash is in the clean sunshine. If, however, your alternatives are a windy, dusty back roof or paved back yard where neighboring ash cans stand uncovered, and a clean inside laundry or drying-room, choose the latter.

When the nursery and washing are "done up," the modified milk should be mixed for the day. This should be done where there is a good outdoor light, and, if possible, running water. In any case, a large enamel tray or oilcloth-covered table is desirable. The method of preparation will vary according to the doctor's orders. Have your formula, with special

Time	Event and Apparatus	
		directions as to its preparation, clearly written out and tacked or pasted on the
11 A.M.	Modifying milk	wall near by. Do not trust to your memory, or stop in the midst of your work to hunt among desk papers or in the back of your baby-book. On the formula should be written the date when it is to be revised by the doctor. Utensils usually needed for the milk modification are: — Stove; electric, gas, or alcohol. Eight-ounce graduate. Pint or quart graduate glass. Two-quart glass, enamel or china pitcher. Improved aluminum Chapin dipper. Teaspoon. Tablespoon. Wire bottle rack, large enough to hold all the day's bottles. Sterile cotton waste to wash off the top of the quart milk bottle. Kettle of boiling water to sterilize all utensils. Funnel. Kettle of sterile bottles. Sterile water. Clean dish-towels.
11.30 A.M.	Apron	The mother should scrub her hands and clean her finger nails just before beginning, and should wear a clean cotton dress or apron.
	Milk sugar	Before mixing the milk, be sure that all the prescribed ingredients are ready. If milk sugar is used, it must be dissolved in boiling water (a small quantity of

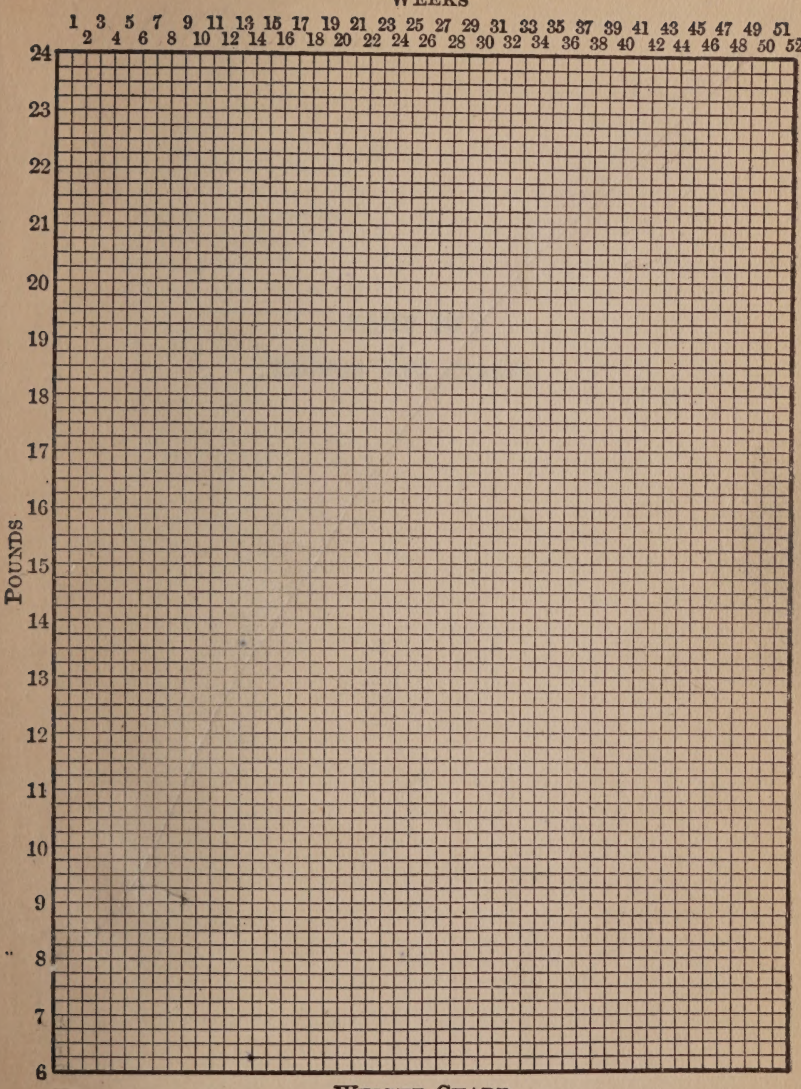
	Event and Apparatus	Time
water is sufficient to dissolve the milk sugar, but this must be accurately measured and deducted from the full amount of sterile water or other diluent of the modified milk). Work out a regular routine in preparing and mixing the milk. The three main points in making an accurate milk modification are: — 1. Absolute cleanliness of utensils. 2. Materials of standard quality. 3. Accuracy; (*a*) the physician's exact orders written down clearly where they can be seen during the process; (*b*) careful measurements.	Modifying milk	11.30 A.M.
As soon as the milk is mixed, pour it into the cool, sterile bottles and cork with the rubber corks. Set the bottles instantly in their rack on the ice, that is, in an ice chest where the temperature is below 50°. Then rinse all the utensils with clean cold water to remove the grease of the milk; wash in hot soapsuds, and, after drying them with a clean dish-towel, used for no other purpose, put them away all together, out of the dust. If there is a second set of bottles, already used and rinsed, these may now be washed and laid, with the other utensils, in the sterilizing-kettle, ready to be put on to the stove next day. The "bottle work" will thus be concentrated into one period.	Icing	
The mother may now have some time to herself before the baby's next bottle, at 12 or 12.30, as the doctor orders. For bottle babies, it will often be a good	Free time	

Time	Event and Apparatus	
12 or 12.30 P.M.	Bottle Bottle cozy	plan, except in the severest weather, to give this bottle to the baby in bed, without disarranging the blankets and clothes. Some children will go back to sleep after this and sleep till 2 o'clock. If it seems better to take the baby up at this time, do not allow any one to play with him, for every healthy baby on three-hour time should go to sleep again directly after the noon bottle, and in any case should be put back for a while in the quiet outdoor sleeping place.
3 P.M.	Feeding	After the 3 o'clock feeding, a child can still go out into his basket during the summer months. In winter, he should go
4.30 or 5 P.M.	Playtime	into his crib until the playtime at 4.30 or 5. The baby should have this playtime on a big bed. Let the room be well aired, by an open fire if possible, with the temperature not below 70°, nor above 72°.
	Room thermometer	Place the thermometer by the baby's play place, not on a chilly wall, or near the ceiling. When the child is too old to be
	Baby pen Blanket or pad	safe on a bed, use a baby pen, with a mattress or thick padded blanket on its floor.
	Floor for pen	These baby pens or baby yards or fences can be bought at any big furnishing store, or made by the family carpenter. They should always be placed securely on a wooden platform at least sixteen inches above the floor, to avoid drafts.
	Play-suit	Take off as many of the baby's clothes for his playtime as is consistent with his not being chilled. The diaper especially should be removed. In winter a pair of loose woolen drawers fastened to his shirt,

	Event and apparatus	Time
or, better still, knitted light woolen leggings, with feet, fastened to a shirt or very thin sweater, make an excellent play-suit. In summer, for a fat, strong baby, the band is enough. If the baby's feet are cold at the end of his playtime, give him a hot-water bottle during the 6 o'clock feeding.	Playtime	4.30 or 5 P.M.
The hour of exercise before the 6 o'clock bottle and bedtime is often hard to arrange properly. Friends and relatives, who have wanted to see the baby during the day, have been bought off by promises of a visit at 5 o'clock, and may now appear in too large a company for the baby's good. It does a healthy baby no harm to be seen and admired at this time of day, but the combination, frequently found in the nursery, of half a dozen people talking, very bright lights, all the older children in the family having their supper, a high temperature (this being the time of day when the furnace or steam-heating plant has decided to increase in force) — all this is reason enough for many an evening cry, while distracted parents wonder what is the matter with the feeding. None of the modern rules about tickling or holding the baby need be broken, and yet the hour, which should be one of quiet, happy exercise and soft, sleepy cuddling by the mother, may be a really damaging episode. Some children will stand far more than others without being overfatigued, and a mother who does not use common sense will not	Visitors	
	Exercise	5 P.M.

Time	Event and Apparatus	
		be enlightened by all the advice in the world. Babies are not nervous invalids,
5 P.M.	Exercise	but they are young and sensitive, and need a serene atmosphere.
5.30 P.M.	Sponge bath Night-clothes	Before the baby is put to bed, change all his day-clothes, putting on even a fresh band and shirt and a clean, warm nightgown. Most mothers will enjoy giving baby an evening sponge with warm water, rubbing him softly all over afterward, and massaging all the tired little muscles. In cold weather this rubdown should be given by an open fire.
	Rubdown	Both bath and rubdown may, of course, be omitted if the baby is tired, or the room is chilly.
6 P.M.	Bottle	The 6 o'clock bottle or nursing should be taken in perfect quiet. If the baby is going to sleep in the room where he has been playing, it is well, in very cold weather, to move him to another room for his bottle, and then open all the windows in the sleeping-room. The room will be aired before morning, anyway, but it will be easier for him to go to sleep in a room which is already perfectly fresh. Be sure that everything which needs to be done in the room is finished when you tuck the baby in; it is a pity to come back and light the light again if he has already settled down.
9 P.M.	Good-night	The baby's day is now over, except for the evening bottle, or nursing, at the mother's bedtime. The baby should be roused for this feeding as little as possible, as some children acquire a habit of

	Event and Appapatus	Time
staying awake at this time. The final arrangement of blankets and windows for the night should be made, and then good-night to the baby till 6 o'clock next morning.	Good-night	9 P.M.



WEIGHT CHART

PART III

RECIPES AND CHARTS

TABLE FOR CALCULATING THE DATE OF LABOR

Jan. . . . *Oct.* . . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7	*Nov.*
Feb. . . . *Nov.* . . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 .. .. .. 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5	*Dec.*
March . . *Dec.* . . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5	*Jan.*
April . . *Jan.* . . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 .. 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 ..	*Feb.*
May . . . *Feb.* . . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 1 2 3 4 5 6 7	*March*
June . . . *March* . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 .. 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 ..	*April*
July . . . *April* . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7	*May*
Aug. . . . *May* . . .	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 1 2 3 4 5 6 7	*June*
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Find in one of the upper lines the date of the first day of the last menstruation and the date under it will be the expected date of labor.

RECORD OF THE BABY'S PROGRESS

It is very important for the mother to keep some record of the baby's progress. This record should be kept, even though the baby seems in every way perfectly well. In case of illness it will be of great assistance to the doctor. The record should contain: —

1. Food which the baby is taking, including the proportions of the various ingredients, provided the baby is not entirely breast-fed.

2. A statement of the number, the color, the consistency, and any abnormal appearance of the movements.

3. The weight.

4. The development, as evidenced by appearance of teeth, holding up the head, sitting up, creeping, walking, etc.

5. Any unusual or noteworthy occurrence, such as restlessness at night, refusing food, irritability, etc.

A simple chart for this record is given to serve as a copy or as a sample for individual variation: —

RECORD CHART

Date	Weight	Food	Stools		Remarks
			Character	No.	

Lime water. Put one teaspoonful of unslaked lime in a bottle containing one quart of boiled water, shake thoroughly, and allow it to stand for twenty-four hours. The clear fluid at the top is lime water.

Barley water. Take two level teaspoonfuls of Robinson's or Brooks's barley flour and mix with enough water to make a paste. Add water up to one pint. Boil twenty minutes in a double boiler. Strain through two thicknesses of cheesecloth. Add boiled water up to one pint to make up what has boiled away.

Gruel. This may be either barley or oatmeal. Use either Robinson's or Brooks's barley or Robinson's oatmeal (groats). Take three tablespoonfuls of flour, and mix with a little cold water to make a paste, then add water to make one pint. Cook for twenty minutes in a double boiler. Add a pinch of salt. Strain through two thicknesses of cheesecloth. If the gruel is too thin, cook a little longer; it should be thick enough to jelly when cold.

Whey. To one quart of skimmed milk heated to 105° F. add four teaspoonfuls of liquid rennet. Let stand in a cool place until the curd forms. Break up the curd with a fork and strain through four layers of

cheesecloth or muslin. Heat the whey (the liquid part) to 155° F. and allow it to cool gradually. Keep on ice. One quart of milk makes twenty-four ounces of whey.

Albumen water. For each four ounces of water at 105° F., add the white of one egg. Stir with a knife until dissolved. Do not heat or shake. Strain through cheesecloth.

Broth. Put one pound of the meat in one pint of cold water. Add a pinch of salt. Cook slowly for three or four hours. Strain through two thicknesses of cheesecloth. Cool. Remove and discard all the fat.

Vegetable soup. Meat: ¼ lb. lean beef, mutton, or chicken. Green vegetables: 1 medium-sized carrot, 2 or 3 spinach plants or 1 small head of lettuce or 2 stalks of celery. Starchy vegetables: 1 medium-sized potato, 2 level tablespoons of rice or barley. Remove all the fat from the meat; cut the meat into small pieces; add ¼ teaspoon of salt and 2 quarts of cold water. Cook the meat slowly for about 2½ hours. Strain the broth through a fine strainer to remove the meat; add the cereal and the vegetables chopped fine to the broth. Cook about ½ hour longer until the vegetables and cereal are soft and the liquid is reduced to 1 quart. Mash the vegetables and cereal through a fine strainer with the broth. Cool and remove the fat from the top. Reheat the soup before using.

This soup should be cooled quickly and kept cold to prevent souring.

Beef juice. Partially broil on both sides one-half pound of the top of the round. Cut in small pieces and squeeze out the juice, using a meat press or a wooden lemon squeezer. Add a pinch of salt. One-half pound of beef makes two ounces of beef juice.

Scraped beef. Scrape a piece of round steak with a knife and then very slightly broil. The meat is practically free from the connecting fiber and is better than when minced.

Junket. To one quart of whole milk heated to 105° F., add four teaspoonfuls of liquid rennet. Add a pinch of salt and a teaspoonful of granulated sugar. Let it stand in a cool place until the curd forms. Strain off the liquid portion or whey. The curd is junket.

Cottage cheese. Pour sour milk into an open dish and let it stand in a warm place (about 100° F.) until the curd is well separated from the whey. Turn the mixture into a strainer lined with cheesecloth. Gather the cheesecloth around the curd to form a bag and let hang until the curd is free from whey. If a dry cheese is desired place a weight on the curd to remove more of the whey. Melted butter or cream and salt may be added, to taste, before moulding the cheese.

One quart of sour milk will make about one third cup of cottage cheese. The same care in selecting milk for cheese should be used as for other uses.

Coddled egg. Put the egg in water which is boiling

and immediately remove from the fire. Cover and let it stand for seven or eight minutes. The white of the egg should be soft and not liquid.

Prune juice. Take one-half pound of prunes, wash and soak in water overnight. Cover with water and add one-half teaspoonful of sugar (no lemon). Cook in a double boiler until the prunes are perfectly tender. Strain through a cheesecloth to remove the pulp.

OTHER RECIPES

Boric acid solution (2 per cent). Put one tablespoonful of boracic acid crystals in a clean eight-ounce bottle, filled with boiled water. Shake the bottle. Not all the crystals will be dissolved, but the water will be a saturated (4 per cent) solution of boric acid. Pour off a small amount of this and dilute with an equal amount of boiled water and the mixture will be a 2 per cent solution. The 4 per cent solution may be kept in the bottle and used as needed.

Soap suppository. Take a piece of castile, Ivory, or common brown soap, and cut out a portion one or two inches long and about the size of a lead pencil. Taper this at one end. It is then ready for use.

THE END

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